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HENRY V. POOR, Editor.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

Saturday, August 12, 1854.

Chicago and St. Louis Railroad.

The opening of the Chicago and St. Louis Railroad for business, which took place last week, is more than an ordinary event in the progress of our railroads; ranking in importance with the opening of the first lines of road from the seaboard to the great Lakes and the Ohio; and from these, to the great interior towns of Indianapolis, Chicago and Cincinnati. Chicago and St. Louis are first class cities in the great valley, and are so far distant from each other, that the staples that form the basis of the commerce of each are mainly different in kind, and in the exchange of which commerce consists. St. Louis may be regarded as the depot for all the products, used north of the country south of the parallel of that city, as the great majority of such must pass through it to the points of consumption. Chicago occupies a similar relation to the country to the North and West of that city. The natural routes of commerce are upon the lines of *longitude*, as with every parallel

of latitude, products differ. The North supplies the South the cereals, provisions of various kinds and manufactured goods, which are exchanged for sugar, rice, and cotton, of the former: the wants of each individual requiring his portion of the whole circle of products.

Between such extremes is the above road the connecting link, and the *shortest* possible one. It also traverses a portion of Illinois second to none in that great State, for its fertility and extent of productions. The road for about one-half of its length passes through what is already one of the best settled, and best cultivated portions of the State, and through Springfield, the seat of government and the largest interior town. The country upon the northern part of its line is yet only sparsely peopled, but is equally rich with the southern in natural capabilities. The country for the whole length of the road will yield to it a liberal support, a business which can never be carried away by other roads, as the Chicago and St. Louis occupies the shortest practicable route, a fact which to a considerable extent must render every connecting road tributary to the former.

The entire distance between Chicago and St. Louis is about 280 miles. From St. Louis to Alton, a distance of about 20 miles, the present route is by the river. From Alton to Joliet, the point of junction with the Rock Island road, the distance is about 220 miles, and which constitutes the *completed* line of the Chicago and Mississippi Road. For the present, the Rock Island Road from Joliet to Chicago, a distance of about 40 miles, will be used. The saving effected over the route previously followed by LaSalle, is about 30 miles. As soon as the road can be placed in good working order, the time between the two cities will be reduced to 12 hours. A saving of another hour will be effected by the completion of the Alton and Illinois town railroad, now in progress.

In our view, the above line of road is one of the best in the West. It affords the convenient outlet in either direction for the country it traverses, which is one of the best in the West. Its directness must protect it from all competition for the business to which it may properly lay claim. As a *through* route it must always form an important avenue for the exchange of products of widely se-

parated portions of the country. With certain articles, such as sugar, rice and cotton, Chicago will always be supplied through the medium of the Mississippi River. Through the same channel will she also receive numerous other items of merchandise, such as iron, salt and manufactured goods. St. Louis is the convenient point at which the business designed for Chicago will leave the River, and the above road, the one which it will take to that city. The converse of the proposition is equally true of Chicago, and the produce and merchandise collected in that city for southern markets.

Chicago is the great city of the North west, and is to the territory north and west of it, what New York is to the whole country. It must always be the point of distribution of merchandise of a very large section of the Union. As extravagant as the estimate may appear, we believe the population of that city must reach 150,000 by 1860. The right arm which connects such a city, the commercial metropolis of the Lakes, with that portion of the country from which it must always receive some of the leading articles which constitute its commerce, cannot fail to be a first class road as measured both by its business and receipts.

Mobile and Girard Railroad.

Below we give the recent report of this company which presents its plans, the progress made up to the present time, and the means for the further progress of their road.

The above road is of first importance both to the region traversed, and to the railway system of the country. Connecting with navigable waters only at either end, it must command all the business of the country upon its line, a part of which runs through one of the best portions of Alabama. The city of Columbus, at its eastern terminus is connected with the railway system of Georgia, and through this with that of the Northern and Eastern States. The completion of the above road will carry this system to Mobile, whence a railroad is in progress to New Orleans, the commercial metropolis of the Gulf.

The Chief Engineer G. S. Runey, Esq., estimates the total cost of the road, moderately equipped for business, at \$4,232,780, or about \$22,000 to the

mile. The estimate for graduation is about \$8,000 per mile showing a favorable line. The cost of superstructure is estimated at about \$8,000 per mile. Timber of the best kind for ties and structures is abundant. The greater part of the line is very healthy.

From the route occupied by the above road we have no doubt it will prove a profitable work. We see no reason to doubt that its receipts would equal those of the Georgia roads, which are among the most productive in the country. It would be without a rival for the business at which it aims, which is certainly sufficient in our opinion to yield a lucrative income.

REPORT OF THE DIRECTORS.

At your last annual meeting a resolution was adopted, requesting the Directors to apply to the Legislature for an amendment of your charter, providing that the annual meeting of the stockholders should be held on the first Monday in July, instead of in March, of each year. The amendment was applied for and made, and you are now assembled agreeably to that amendment. Another amendment to the charter was, at the same time, passed by the Legislature, changing the corporate name of the Company to that of the Mobile and Girard Railroad Company. These, and other amendments made by the last Legislature will be submitted to you, and it is suggested that you adopt a resolution accepting the same.

During the last year the city of Mobile passed an ordinance making a subscription of one million dollars to the capital stock of our Company, upon certain conditions specified in said ordinance. This ordinance was subsequently submitted to the people of Mobile for approval or rejection, and was confirmed by a very large majority of the popular vote. As the subscription thus made was to be paid in the bonds of the city, the interest and principal to be met by taxing the citizens, it was necessary that it should be sanctioned by an act of the State Legislature; such an act was passed, and the subscription now stands confirmed. The ordinance making the subscription, with the act of the Legislature referred to, accompanies this report. The Board of Directors, at a regular meeting in July last, adopted a resolution accepting the subscription upon the terms proposed, and, subsequently, three gentlemen, residing in Mobile and indicated by the City Authorities, were elected Directors in the place of Messrs. Abercrombie, Gachett and Dawson, who resigned for that purpose. Although the Board have accepted this subscription by formal resolution, and have acted upon it, yet it is deemed necessary and proper that the same be submitted to the approval of the stockholders. Your attention is therefore called to this subject, and you are respectfully requested to pass a resolution accepting the subscription agreeably to its terms.

Prior to the making of this subscription, it was the determination of the Company to make the western terminus of the road on the Tensaw river. The acceptance of the subscription devolves upon the Company the obligation of crossing the Tensaw and Mobile rivers, and extending the road to the city of Mobile.

In addition to the subscription of one million dollars by the corporate authority of Mobile, about fifty thousand dollars have been subscribed by individuals in that city, since your last meeting and some ten or fifteen thousand dollars on the line between Columbus and Mobile. The Report of the Treasurer will exhibit the aggregate amount of cash and other subscriptions, as now exhibited by the books of the Company. A particular reference to the character and availability of these subscriptions will be hereafter made in this report.

In the year 1851 the city of Columbus subscribed one hundred and fifty thousand dollars to the stock of the Company, payable in her seven

per cent. bonds. This subscription was made with the express provision that it should be applied to the purchase of iron. At that time railroad iron could be imported into the United States at about forty to forty-five dollars per ton, and the subscription in question was intended and believed to be sufficient to purchase all the iron necessary to cover the road to Chunnenggee, a distance of 44 miles. In consequence of the delay of the City Authorities in issuing the bonds, and placing them in the hands of the Board of Directors, it was late in the fall of last year before any contract could be made for iron. In the mean time the article had risen largely in price, and what has been purchased cost the Company about \$65 per ton, delivered in Savannah. The Directors negotiated the city of Columbus bonds in payment for the iron, at ninety cents upon the dollar, which was the very best terms that could be obtained, and under the circumstances may be considered favorable. The one hundred and fifty thousand dollars thus subscribed by Columbus, instead of buying iron for 44 miles of the road, as contemplated, has only procured enough for twenty-two and a half miles.

A contract has been made with the Railroad Companies between this place and Savannah, to transport our rails at a very reasonable price, payable in the stock of our Company. A considerable portion has already been forwarded and has been transported across the river to our road.

The grading of the twenty-two and a half miles, to the Depot at Colbert, is nearly completed; the superstructure is ready, and a contract has been made with a responsible and energetic company, to put down the superstructure and the iron, and to have the twenty-two and a half miles finished by the 10th of October. If no untoward accident should occur to mar our prospects, we shall have that portion of our road open to trade and travel by the commencement of the cotton season. It is hoped and believed that the opening of the road, even for this short distance, will instill hope, infuse confidence, excite the energy and stimulate the exertions of the people from one end of the line to the other, and induce them to come forward promptly and liberally to the aid of an enterprise by which their convenience, comfort and interests are to be so largely promoted.

A portion of the line between Colbert and Union Springs is now being graded. The remaining sections are ready to be let, and the Board has authorized the Engineer to put them under contract.

From the best estimate that can be made of the probable cost of the road between Girard and Union Springs, it will require about one hundred thousand dollars in cash to complete the grading and superstructure. It is the intention of the Board, at an early day, to make an effort to obtain additional subscriptions. It is confidently believed that the necessary sum can be raised, and in anticipation of success, the grading, as before stated, will be let out to contractors during the ensuing fall. As to the iron, for the thirty miles between the above points, the Board rely upon an additional subscription from the city of Columbus of one hundred and fifty thousand dollars. The City Council, last year, passed an ordinance in legal form, authorizing such a subscription; no action, however, has been had upon the subject since, and as the last Legislature of Georgia passed a law, making it necessary that all subscriptions of that city, over ten thousand dollars, should be submitted to a popular vote, it will be necessary to obtain the approval of the subscription by the voters of Columbus, before it can be made available to our Company. The Directors do not entertain any doubt but that the intelligent and public spirited citizens of Columbus will at a proper time, confirm this subscription. If that subscription shall be made, and we are not disappointed in obtaining the proposed amount of cash subscriptions, we may safely calculate upon running our trains to Union Springs, 52 miles, by the fall of 1855.

The completion of our Road to Union Springs,

would, in our opinion, double the quantity of cotton received at Columbus, all or nearly all, of which would pass over the Muscogee, South Western and Central Railroads to Savannah. The very large increase which our road will bring to the business of these roads, and to the city of Savannah, gives us a strong claim for liberal subscriptions from these quarters. Application will be made in due time, and we rely with confidence upon success.

The subscription made by the city of Mobile is, by its terms, applicable only to that part of the Road between Mobile and Greenville. A large amount of the individual subscriptions on the line below Union Springs, are in like manner applicable to particular portions of the Road west of that point. The subscriptions in grading, between Union Springs and Mobile, amount nominally to one hundred and two miles, of which it is probable about one-third will not be available. There are also subscribed between the same points, fifty-two miles of cross ties, of which one-third will probably be lost. After a late trip, made by the President and one of the Directors with the Chief Engineer, up and down the whole line, and a careful enquiry into the condition of things, the conclusion is arrived at, that we may safely calculate upon having sixty-eight miles graded, and thirty-six miles of cross ties finished, for stock; leaving about one hundred and eight of grading, and one hundred and forty miles of cross ties, to be provided for by the Company in some other way, together with the bridging, culverts and track laying for the whole distance. It is believed that the grading, bridging and superstructure of the whole road, from Union Springs to Mobile, can be let to responsible contractors, at reasonable prices, payable one-third in cash, one-thirds in the bonds of the Company, and one-third in our stock. If such contracts can be made, there will be required about one hundred and seventy-five dollars in what are deemed good cash subscriptions, applicable to that portion of the road, leaving two hundred thousand dollars to be supplied. Every effort will be made to obtain this sum from the citizens of Mobile and the Counties adjacent to and through which the Road runs, and strong hopes are entertained that a sufficient amount will be obtained.

The final location of the Road below Greenville having been completed, it is the intention of the Board, as soon as the profiles and estimates are made out, to let to contract that part of the line from Burnt Corn creek to Mobile, about eighty miles, during the coming fall, so as to have the work commenced by the first of January next, and finished during the next year. They hope, also, to have a portion, if not the whole, of the sections between Burnt Corn creek and Greenville, and between Greenville and Union Springs, in the process of grading during the next year. The Board feel confident that if an additional sum of three hundred thousand dollars cash subscriptions can be obtained, payable within the next three years, in annual installments, the whole road, from Girard to Mobile, may be completed and put into operation by the first of January 1858.

In addition to the amount required for grading, bridging, &c., as above stated, it will require about one million and a half dollars for iron, equipment, and other necessary expenditures. For this purpose, we shall have one million dollars Mobile six per cent. bonds and one hundred and fifty thousand dollars of bonds of the city of Columbus, leaving a deficiency of three hundred and fifty thousand dollars to be supplied. If the bonds of these cities can be negotiated for iron, without a great discount, it will be the policy of the Board to use them in that way. It is very doubtful, however, whether bonds bearing so low a rate of interest would command a fair price; and it will probably be better policy to issue the bonds of the company bearing eight per cent. for the requisite amount, hypothecating the city bonds, as collateral security in part, and giving other security for the remainder. The eight per cent. bonds of the Company, secured by such a hypothecation and by a mortgage upon the Road, would probably command a par for iron and equipment. It will be

necessary also, to issue the bonds of the Company to an amount sufficient to cover one-third of the cost of construction, as heretofore suggested, which will not fall short of three hundred thousand dollars, and may be larger. In order to carry out this policy and meet any contingencies that may arise, it is respectfully suggested that you pass an order authorizing the Board to issue bonds to the extent of two millions, to be applied to the purposes indicated. The bonds issued for grading, &c., to be payable in not less than five, nor longer than ten years. Those issued for the purpose of iron &c., to have a time to run corresponding with the city bonds pledged for their security.

No doubt is entertained by the Board, that the earnings of the Road, as it shall progress to completion, will not only pay all the interest accruing on bonds issued, and which the Company shall be called upon to pay, but aid materially in the construction of the work, and finally be ample to meet the principal sums as they fall due. By the rule adopted by the Board in the establishment of depot stations, a considerable subscription to the stock of the Company may be anticipated as the Road progresses, to be applied to construction or payment of interest.

The estimate of the probable earnings of the Road is believed, by the Board, not to be extravagant. For one hundred and fifty mile west of Girard, the Road runs through one of the most beautiful, healthy, and productive countries in the Southern States, capable, when taxed to a reasonable capacity, of trebling its present agricultural products, and greatly enlarging its present population. From the almost impassable nature of the wagon roads heretofore used in transporting cotton and other articles to Montgomery, and other points on the Alabama river, during the winter season this whole country has been comparatively locked out from market. The construction of the Mobile and Girard Railroad, affording the planters a speedy, safe and cheap conveyance of their products to the most favorable markets, will invite settlers from other quarters, fill up the country with a thriving and healthy population, and greatly enlarge the wealth and resources of the people. The country near Mobile, through which the road passes, although what is usually termed a pine barren, yet is not unproductive in an agricultural point of view, while it is covered with a dense growth of pitch pine, capable of furnishing large quantities of lumber, and scarcely less important and desirable than the richer lands upon the eastern line of the Road.

The Mobile and Girard Railroad, in connection with the Mobile and New Orleans, (certainly to be built at an early day,) and the Roads east of Girard, now built and to be built to the northern cities, affords the quickest and cheapest avenue for the vast horde of travellers which must pass between the Atlantic States and cities, and the Gulf States and ports leading to the Pacific coast. Our Road, when completed, must form an important link in the great mail line from the northern cities to New Orleans and the South-west.—Through travel generally accompanies the United States mail, and we venture little in expressing the opinion, that in a few years our road will be one of the most important thoroughfares, both of through and way travel, in the Southern States.

To build a road of such length and importance, promising such liberal returns for our labor and money, and conferring such important benefits upon the public, encourages us to renewed efforts and unwearied exertions to complete the magnificent enterprise which we have undertaken.

All which is respectfully submitted.

ALFRED IVERSON, President.

Gallipolis, Jackson and Chillicothe Railroad.

At the election for Directors of the Gallipolis, Jackson and Chillicothe Railroad Company, the old Board was elected to-wit: Wm. H. Langley, Charles Henking, Simeon Nash, John Hutsiniller, Robert Black, Isaac R. Calahan and John N. Kerr.

The Grand Trunk Railway Co. of Canada. FIRST ANNUAL REPORT OF THE DIRECTORS.

The period for holding the first meeting of the Shareholders of the Company having arrived, the Directors desire to place before them a full report of the progress of the undertaking since its formation.

The amalgamation of the several Companies now comprised under the title of the Grand Trunk Railway Company of Canada, was completed in July of last year; immediately afterwards the necessary steps were taken for issuing the shares and debentures to the holders of the Provincial certificates of the A series of Grand Trunk Shares, and by the conversion into Grand Trunk Shares of the paid up in full Shares of the St. Lawrence and Atlantic, the Quebec and Richmond, and the Toronto and Guelph Companies.

It may not be inopportune to state here that the system adopted and carried out, with reference to the preparation and issue of these documents, as well as to their registration and transfer, and to the payment of interest and dividends on them, is of the most complete and satisfactory character.

Immediately after the amalgamation, the necessary organization of the Company in the traffic department, under the control of Mr. S. P. Bidder, its General Manager, was effected. His report is attached hereto. The system of Audit of all receipts from traffic was also brought into operation on the principle of the London Clearing House—the experience of several years, acquired in English railways, demonstrating this as a complete and effective check on all payments on account of traffic. Its working on the section of railway between Portland and Montreal has shown the advantage of its adoption in this country. Arrangements have been made for its extension as the several sections of the Grand Trunk Railway are completed from time to time.

The St. Lawrence and Atlantic and Atlantic and St. Lawrence Railways, forming the line from Portland to Montreal, are 292 miles in length.—They were delivered to the Company in July, 1853, in a state unfit for working, and the locomotive and carriage stock was equally deficient.

Engagements, however, had been entered into which rendered it necessary to keep the line open so as to get through one train a day during the winter.

Notwithstanding the adverse circumstances under which the line was worked, the traffic has gradually increased from £1644 3s 9d Stg., which it was on the week ending the 7th January last, to £3,627 1s 9d for the last week of the half year ending 30th ultimo. The total receipts for the half year were £73,112 8s 2d Stg. To earn that sum an expenditure of £58,122 14s 0d was incurred.

This large amount for working expenses will naturally attract attention, but it has to be remembered that the railway was kept partially open to fulfil the engagements already referred to, as well as the solicitation of flour and lumber merchants, who had made contracts in the belief and understanding that the railway from Montreal to Portland would be in effective working order during the winter. It must also be borne in mind that the last winter was the severest known in Canada East for several years, and that, in addition to the short supply of engines and other rolling stock, there were neither work shops nor tools for the necessary repairs. The half year just expired, therefore, forms no criterion for the future as regards working expenses.

The line is now in good working order. The ballasting throughout its entire extent is nearly completed. The number of engines has been augmented to 64, and more than the ordinary proportion of them is in complete and effective working order. The necessary workshops and tools have been provided, and every arrangement has been made, or is in progress, for rendering the line capable of conveying as large an amount of traffic as can be carried on a single line of railway, at or about the ordinary rates of working expen-

ses. Since the 1st instant, "Through" trains accomplish the distance each way between Montreal and Portland in 11½ hours, and the number of passengers carried by them would have been greatly in excess of their present amount, had not the unfortunate prevalence of cholera checked the immense travel from the United States that usually flows into Canada at this season of the year. The ordinary trade of Montreal has likewise been diminished to a considerable extent in consequence of the prevalence of this disease.

Although the sea service of the Canadian Steam Packet Company was not carried on in an effective manner during the past winter, the experience acquired by merchants and others has convinced them of the advantages of the communication; and there is no doubt that if a weekly passage were established between England and Canada, and that the sea service were performed with average regularity in vessels of large tonnage, the receipts on the line from Portland to Montreal alone would be increased between £1,500 and £2,000 a-week from this source.

Up to the date of the last advices from England, the 6th instant, £1,848,845 sterling had been paid on account of the A series of shares of the Grand Trunk Company and the debentures to which such shares are entitled.

£490,885 sterling have been paid in advance of future calls, a satisfactory proof of the confidence entertained by the English Shareholders of the Company as an investment.

It is intended that the next call of £2 10s. per share and of £10 on each class of debentures be made in October next, to be followed by calls for the same amounts in February and June, 1855.

Owing to the prospects of a general war in Europe, and the consequent probable depression of all securities, the Directors deemed it prudent, during the autumn of last year, to apply to the Provincial Government to grant, under the Guarantee Act 14 & 15 Vic. Cap. 73 Section 22, the same privileges with reference to the Province Bonds, to be issued to this Company, as had been afforded to other Railroad Companies in Canada entitled to the guarantee.

The Government assented to this proposal, and transmitted to Messrs. Baring & Glyn, the Agents of the Province in London, £905,700 of debentures, with instructions that they be issued to such Shareholders of the Grand Trunk Railroad Company as paid 40 per cent on their A shares, and in full on the Province Bonds to which they are entitled.

The amount paid in full on these debentures to the 6th instant, is £492,300 sterling. The works completed by the contractors to the 14th instant (at the rate of 40 per cent on the works to which the debentures apply) have entitled the Company to £311,000, and a further amount of £317,500 is held on account of those sections of the line hitherto known as the St. Lawrence and Atlantic and the Quebec and Richmond Railways. It therefore, appears that the Company have not yet received from the Government the amount of Provincial aid to which it is entitled. The debentures are, however, in the hands Messrs. Baring & Glyn for disposal to the Shareholders of the Grand Trunk Company under the conditions before stated.

Should a larger sum be received by Messrs. Baring & Glyn in payment of these Debentures, than the amount to which the Company is entitled on works executed, it will be held by these gentlemen and will be only handed over by them to the Company, as it becomes entitled thereto from time to time by order of the Government of Canada.

A similar arrangement will be carried into effect with the B series of these Debentures as the works progress. The amount of this issue will be £905,800.

In accordance with the arrangement announced by the London Board on the 6th of May last, the Directors have entered into the following arrange-

ments with reference to the progress of the work:—That they be actively proceeded with from St. Thomas, 40 miles below Quebec, [to join the Quebec and Richmond line,] and between Montreal, Kingston, Toronto, Guelph and Stratford, so that the line shall be opened from Montreal to Prescott, and between Toronto and Stratford, a distance of 210 miles, in the autumn of next year, and the other sections giving a total length of 867 miles in October, 1856.

The works postponed under this arrangement comprehend 245 miles, and an outlay of about two millions sterling.

The capital accounts submitted herewith, show that the expenditure under that head to the 30th ultimo, has been £1,860,265 5s. 6d. sterling, of which £237,798 sterling was on account of works on the line between Montreal and Portland, providing it with additional locomotive stock, workshops, &c., £589,425 for works and materials supplied between Montreal and Toronto, £363,396 19s., between Toronto and St. Mary's £537,350 between Quebec and Richmond, £63,172 for the line East of Quebec, and £57,020 13s. 9d., for the Victoria Bridge.

The Directors refer with satisfaction to the full and detailed report of Mr. A. M. Ross, the Company's Chief Engineer, herewith subjoined, on the progress of the various works now in the course of construction. It cannot fail to be read by the Shareholders with the deepest interest.

On the subject of the Victoria Bridge the Directors desire to state that its necessity and advantage become daily more apparent.

The explicit Report of Mr. Robert Stevenson, recently published, has convinced all persons interested in the subject, in an engineering point of view, of its practicability and propriety, and the perusal of Mr. Ross's Report will show the successful manner in which the works have progressed to the present time.—Viewed in relation to its commercial importance the Directors are more than ever impressed that, without it, the large and comprehensive traffic system involved in the construction of the Railway, could only be partially and by comparison ineffectually carried out at a very great cost. Montreal is the terminal point of the Ocean Navigation connected with the St. Lawrence on the one side, and of the great Canadian and American Lakes extending 2,000 miles into the heart of the Continent on the other. It is also the centre from which lines of Railway at present radiate to Portland, Boston, and New York, Ottawa and other rich, though as yet only partially developed districts, of Canada. Without the Victoria Bridge the Grand Trunk Railway would, in fact, be two Railways involving the cost and expensive working of two separate plans, whereas by its construction, under the perfect system of management which the Directors believe they will be able to introduce, not only will the immense traffic both of persons and of merchandise which now flows through Montreal continue with the natural expansion consequent upon the opening of Railways in surrounding districts; but it is the firm conviction of the Board that by means of the Bridge a better, more rapid, and cheaper communication will be afforded for the magnificent district of Western Canada and of the North Western States of America, including Michigan, Illinois, Wisconsin, Minnesota, Iowa, &c., to the Atlantic Sea-board, and for the supply of these districts with imported goods than by any other route on this Continent. With reference to the cost, it should be observed that if its amount be distributed over the Grand Trunk Line, it will add about £1,200 a mile to the expense of construction, making the total cost of the Railway (to be finished in every respect equal to a first class English Railway) about £9,500 a-mile, which amount includes the necessary Locomotives and other Rolling Stock for working the Line. In addition, the lines of Railway, independent of this Company, which converge at Montreal are about 1,600 miles in length.

All these will pay toll to the Company to pass their traffic over the Bridge, as it must be obvious

that it will be cheaper than to ferry the river by steamboats in summer or by sleighs in winter.

The Directors are happy to announce that the agreement entered into in London between this Company and the Great Western Railway Company for each to suspend until 1856, such portions of the respective lines as excited mutual jealousy, has been confirmed by the Canada Board of that Company. In consequence the works on the Great Western Line from London to Sarnia, and this Company's Sarnia Extension have been deferred.

The Board has every reason to hope that before the expiration of the present agreement, terms of a friendly alliance will, under the decision of Mr. Stephenson, be arranged between the two companies, by which all the evil incident to any apprehended competition will be avoided.

The election of three Shareholders of the Company as auditors, is likewise required by the terms of the amalgamation agreement.

Certain shares in the Quebec and Richmond Railway are now in arrears for calls. A resolution will be submitted to the meeting to empower the Directors to forfeit such shares two months after a notice has been published in the "Canada Gazette" and in the other newspapers.

JOHN ROSS,
President.

Quebec, 27th July, 1854.

Atlantic and St. Lawrence Railroad.

The following is the report of the Directors of the Atlantic and St. Lawrence Railroad submitted at a meeting of the stockholders held at Portland at the first instant.

To the Stockholders of the Atlantic & St. Lawrence Railroad Company:

The Directors submit the following Report for the year ending June 30th, 1854:

During the past year the road has been run by the Lessees, in connection with their line in Canada.

They have retained in their service most of the former employees of this Company, and in other respects, their management of the road has been generally satisfactory and successful.

The road itself has been very much improved, and much more extensive expenditures have been made, for gravelling, wood sheds, water stations, and coverings of bridges, than we could have made with our limited means.

At Fish Point, in Portland, a great improvement has been made in reducing the curve round the hill, and in grading for additional tracks; and additional depot grounds have been made by filling the flats.—The foundations are laid for a new passenger building at the foot of India street, so that on its completion, the present building may be used entirely for freighting business.

All the obligations entered into with this Company by the Lessees, under the contract of lease, have been punctually and satisfactorily performed.

The interest on our funded debt, dividends to shareholders, and amount due to the Sinking Fund, have been promptly paid.

The floating debt of this Company has been paid, as it became due, by the Lessees, and our bonds, on twenty-five years, to the amount of four hundred and eighty-four thousand dollars have been issued therefor, in conformity to the provisions of the contract of lease.

The amount of floating debt remaining unpaid June 30th, 1854, is \$89,518 34, which includes the amount of interest scrip due 1st of August next.

The Lessees have agreed upon terms of settlement with Messrs. Wood, Black & Co. in relation to the amount due under the contract for building the road, but this settlement has not been acted on and recognized by the Directors, some disputed land claims remaining to be adjusted before a final settlement with them can be made.

The whole number of shares of capital stock standing on the books of the Company, June 30th,

was sixteen thousand nine hundred twenty-two making sixteen hundred ninety-two thousand two hundred dollars.

The amount of stock to be issued to Messrs. Wood, Black & Co. on final completion and settlement of their contract will make an aggregate of shares, issued and to be issued, 18,091 shares, amounting to \$1,809,100 00.

The funded debt of the Company is as follows:

City Bonds loaned to the Company for which it is liable.....	\$2,000,000 00
Bonds of the Company dated April 1, 1851, and redeemable in fifteen years.....	980,300 00
Bonds of the Company dated Nov. 1st, 1853, on twenty-five years, payable in Sterling Currency.....	484,000 00

Making an aggregate of funded debt.....\$3,464,300 00

Amount of floating debt outstanding June 30th, 1854..... 89,518 37

The sinking Fund, provided for in acts authorizing the city of Portland to loan its credits, amounted on the 30th June to \$119,315 40.

The Report of the Commissioners of this fund is hereto annexed.

The business upon the road has steadily increased during the year, requiring large additions to the equipment and more frequent freight trains, and we have no doubt the increase will continue till the business is equal to the capacity of the road to accommodate.

The Parliament of Canada is expected to meet for business on the first of September next, when the Grand Trunk Railway Company will doubtless be fully empowered to take the lease of this road, and make the necessary contract therefor in its own name.

All which is respectfully submitted.

In behalf of the Directors:

JOSIAH S. LITTLE, President.

Office of At. & St. L. R. Co. }
Portland, July 25th, 1854; }

The Commissioners' Report states that the aggregate amount of the two funds is \$119,315 40, viz:

Fund of 1848.....	\$85,525 93
Fund of 1850.....	33,789 47
	\$119,315 40

Total principal.....	103,750 00
„ interest.....	15,565 40

\$119,315 40

The present investments of both funds are as follows:

Invested in City Scrip of the Railroad	
Loans.....	\$64,000 00
Mortgages of real estate.....	55,220 00
Cash.....	95 40

\$119,315 40

We copy from the *State of Maine* the following notice of the meeting.

After the reading of the report, Mr. Little made a verbal explanation as to the reasons of the delay in Canada in perfecting the lease. He then introduced to the meeting Hon. A. T. Galt, who entered into a brief explanation of the state of railway matters in Canada, fully comparing and sustaining the report of the Directors, and the statements of Mr. Little.

Mr. Galt said the Parliament of Canada would not probably meet as early as September 1st, but at some time during that month, and that within a month or six weeks thereafter the needful authority would be granted to the Grand Trunk Railway to accept the lease of the Portland line. (Cheers.)

The several reports were then unanimously adopted.

John B. Brown, Esq., President of the Board of Trade, then offered the following resolutions:

Whereas, the experience of the past year has demonstrated the advantages of Portland harbor, as the steamship terminus for the trade between Canada and Europe, and has also shown the great value and importance of a regular line of steamers from Liverpool to this port—now sufficiently made known to warrant an annual subsidy from the city of Portland for the purpose of securing such a line upon a permanent basis—therefore

Resolved, that the Directors of the Atlantic & St. Lawrence Railroad Company be advised to make application to the city of Portland, requesting the city government to render such aid as may be necessary to secure such a result.

Resolved, Further, that the Directors, at their discretion, be requested to invite the authorities of the State, the several railway companies, and other parties interested, to join in such an undertaking.

Mr. Galt said, as a stockholder in this company he took great pleasure in seconding the resolutions, and he desired to offer a few remarks in their support, feeling as an inhabitant of Canada, the most lively interest in the subject. No one could question the correctness of the preamble to the motion, that steam communication between Portland and Europe was an object of the highest importance: and those who had witnessed the advantages to this city of the arrival of the steamships last winter, could not fail to appreciate the still greater benefits that would flow from their continuing to ply to Portland during the entire year.

Mr. Galt stated his belief that the Grand Trunk Railway would be disposed to give every support in their power to a constant line of steamships to Portland, but added that this city and its commercial inhabitants were the parties who would derive the most benefit, and therefore it was quite within the province of the shareholders in the Atlantic road to urge their Directors to bring the subject before the proper authorities. He said no one could look around and see the improvements in this city without feeling that their onward march demanded an uninterrupted communication with Europe. The population of Canada, now exceeding two millions, must have a regular channel for their business, and he did not believe that it could be found better than by the Railway with Portland for its terminus. It must be manifest to every business man, that the progress of Portland depended upon its facilities for despatching business; they could not expect the products of the west to come here, unless there were the means of sending them away; nor could produce be sent here with economy, if no back freight were provided for the railway, as the freight one way had to pay the cost of returning the empty cars. To give full effect to the benefit of the railway, Portland must be made a place of import as well as of export, and unless this were done, the anticipations of advantages from the railway west, must be more or less disappointed.

He did not consider this as a question which ought to be regarded by the Atlantic stockholders with indifference, because they had no longer an interest in the future prosperity of their road. As their original design in building their road was to benefit their State and city, and these objects remained equally important whether they received six or ten per-cent, and he did not doubt that the same public spirit and unanimity would be shown in supporting the steamship project which had marked all their proceedings.

His object in now addressing the meeting, was to impress on the public here the importance of taking prompt measures to secure a constant steam communication—and especially to point out that though the object was undoubtedly, in a favorable position to be attained, still it would require a greater effort than had already been made by the city and Railroad Company. Inasmuch as the Canadian government could not be expected to devote the same aid to the line to Portland as to the St. Lawrence, and the difference must be more or less made up by others, who would most benefit by the change. Undoubtedly, those

were the inhabitants of Portland, and he trusted they would come forward with alacrity in urging on their authorities the adoption of such a course as would prove of lasting benefit, as well as to the city of Portland as to the State of Maine, and to the whole province of Canada.

Mr. Galt's remarks were received with great applause.

The resolutions were unanimously adopted.

The following gentlemen were chosen for the Board of Directors for the current year:—

J. S. Little, Wm. P. Preble, A. T. Galt, Phineas Barnes, St. John Smith, John A. Poor, J. B. Brown, A. W. H. Clapp, Samuel Jordan, Solomon H. Chandler, George F. Shepley, Thomas Crocker, Thomas Hammond.

St. Louis, Memphis and New Orleans R. R.

When the Mississippi Valley Railroad, to connect the city of New Orleans with the Falls of St. Anthony, was projected, in October, 1852, we presented the claims of three routes, south of Missouri, viz: the Little Rock, the Memphis, and the Helena route.*

The country from Missouri to Memphis, and from Missouri to Helena, had been unexplored by railroad engineers, and a merely preliminary survey had been made by the government of the U. S. from St. Louis to Fulton via Little Rock.

We, however, obtained information of the peculiarity of Crowley's Ridge extending from Missouri to Helena, 150 miles, with an almost unbroken firm and high surface on its side above the swamp and overflowed lands, with which it was surrounded. Helena was also in a nearly direct line from St. Louis to New Orleans. The Arkansas country on each side of Crowley's Ridge was mostly abandoned unreclaimed and overflowed lands. The Helena route was considered shortest, cheapest, and was therefore preferred.

The Memphis route, it was thought, might be established by the construction of that portion of the Memphis and Little Rock railroad from the Mississippi to the St. Francis, 40 miles across the swamp; and although it was considered impracticable to build a road from Old Indian Ford to Memphis through the lakes, swamps, &c., 140 miles, on the east side of the St. Francis; yet it was then declared that "Memphis might hold out inducements to make its routes preferable" to the Helena route.

In regard to the Little Rock route, it was considered that "advantages might be gained by and from Little Rock and the country along its route, to produce a great preponderance in its favor," although the Little Rock route was estimated 95 miles longer than the Memphis route. The Little Rock route has been earnestly and uniformly advocated by us; and although violently opposed by a strong political party in Arkansas, as a "visionary scheme too wild for a respectable man," and "worse than a man's trying to hold himself out at arm's length," this scheme has become more respectable than its adversaries, and stronger than their strength, and is progressing with reasonable speed, by the impetus given to it by its friends, combined by its own intrinsic merits.

We will now present the claims of the Memphis route, together with newly discovered evidence in its favor, hoping soon to obtain yet further evidence of a commercial character, which will place this route on a commanding position.

The final survey of the Railroad from St. Louis to the Iron Mountain reduces the distance to 80 miles from Hazel street, on the route which is now located in every part, which is under contract, on which 350 men are now working, and \$95,000 have been paid to the contractors for work done to 1st June 1854.

The extension of the Iron Mountain road towards Arkansas reaches the Swamp District near Indian Ford, 150 miles from St. Louis. The route of this extension was found to be far more practicable than its warmest friends anticipated, the grades

* See Western Journal & Civilian, vol. 9, page 36, October, 1852.

being easier, and the cost averaging \$10,000 per mile less than that of the portion between the Mountain and St. Louis, whereas, from the estimates of Barney's survey, it was apprehended that the relative cost would be much greater below than above the Mountain. Considering the mountainous character of the country, this line of 70 miles from the Mountain to the Ford is remarkably straight. It is the only good line that could be obtained south of the Mountain towards Arkansas, and furthermore is in the direction of Memphis.

The Indian Ford may become a fixed point in the Mississippi Valley Railroad, which ever way the road may be extended towards the South, and this point, though on the verge of the Swamp District, is destined soon to rise and become a point of great distinction. Therefore it may be well to designate it now with reasonable distinctness.—Old Indian Ford is on the St. Francis river, near, though south of the junction of Wayne, Butler and Stoddard counties. It is equidistant from Cairo, Hickman, and the Arkansas line, in Grand Prairie, Dunklin county, being about 60 miles on an air line from each. It is also nearly equidistant from New Madrid and from Point Pleasant on an air line, being about 45 miles from each; and it is just 30 miles from Arkansas line, in Ripley county, where the best route is found along the northwestern border of the Swamp Region in the direction of Little Rock and Fulton in Arkansas. Three routes have already been surveyed by the Iron Mountain Co. radiating from Old Indian Ford, one to Cairo, one to Arkansas line in Ripley county, and one to New Madrid, the last mentioned to Point Pleasant. A great variety of other experimental surveys were made throughout the Swamp Region; and it is believed from indications discovered in these discursive experimental surveys, that one of the most practicable routes from Old Indian Ford towards New Orleans would be almost in a straight line in that direction; that is, on the east side of the St. Francis river through Stoddard and Dunklin counties to the Arkansas line, in Grand Prairie, which is also in a direct line toward Memphis.

A powerful argument in behalf of this route in Missouri might be built up, based on the reasonable presumption, that a railroad bed, constructed along the eastern shore of the St. Francis in Stoddard and Dunklin Counties, would be the best embankment to prevent the occasional overflow of this river in these counties, and further that such an embankment may be essential to reclaim the swamp lands in these and the adjoining counties of New Madrid and Pemisco, as also of a large part of the country in Arkansas east of the St. Francis. This branch of this subject is well worthy the careful consideration of the Swamp Land Commissioners of Arkansas, as also of the above mentioned swamp counties of Missouri.

That the probable feasibility of this route may be still more highly appreciated, and the ignorant prejudice against building a railroad through the Swamp District may be more thoroughly advised and fairly enlightened, it is proper to state, and it should not be forgotten that while the cost of the construction of the railroad from St. Louis to the Iron Mountain, ready for rolling stock, averages \$40,000 per mile along its 80 miles, and that while the cost of construction of railroads from the Iron Mountain to Indian Ford, ready for rolling stock, averages \$30,000 per mile along its 70 miles, the cost of construction of railroads from Indian Ford through various portions of the Swamp Region, ready for rolling stock, averages in general only \$18,000 per mile, being only about $\frac{1}{2}$ as much as the average from St. Louis to the Indian Ford.

That the length and cost of the Missouri portion of the St. Louis, Memphis, and New Orleans Railroad, may be somewhat minutely yet concisely shown, we may conclude from the data above stated, as the distance from Indian Ford to the Arkansas line in Grand Prairie, Dunklin county, is 60 miles on an air line and as the average deviation from an air line may be fairly represented by one-sixth, that the length of Indian Ford and Grand Prairie line is 70 miles, and that the cost of construction of this link, ready for rolling stock,

averaging \$18,000 per mile is \$1,260,000; and placing the links in tabular form we find

The length of the St. Louis and Iron Mountain link	80 miles
Iron Mountain and Indian Ford	70 "
Indian Ford and Grand Prairie link	70 "

Total length of the Missouri portion..... 220 miles

Cost of 1st division 80 miles, at \$40,400 per mile	\$3,200,000
Cost of 2d division, 70 miles, at \$30,000 per mile	2,100,000
Cost of 3d division 70 miles, at \$18,000 per mile	1,260,000
	\$6,560,000

By adding cost of rolling stock, together with buildings and fixtures for same at the rate of \$4,000 per mile, 220 miles. 880,000

We find total cost in Mo. in running order..... \$7,440,000

Touching the Arkansas portion of the St. Louis and Memphis Railroad, on the route above indicated, as it may become a link of vast importance in the Mississippi Valley Railroad, and as it was originally and almost universally thought to be utterly impracticable, it is but justice to Mr. W. D. Ferguson, of Arkansas, to fix the fact that he is the man who first projected and earnestly advocated this route. One year ago from this date at the Memphis Convention in June, 1853, in conversation with the author of this article, he presented the claims of this route, and urged them with the light of his experience on the ground, and with the warmth of his enthusiasm in the prospect. Not one word could we then hear in its favor excepting from him.

Since then but little has been said or done on this subject until the first day of March, 1854, when G. W. Underhill, of Arkansas, E. H. Porter, of Tennessee, and L. M. Kennett, of Missouri, with their associates in each of said States formed themselves into a corporation under the general law of the State of Arkansas by the name of *Memphis and St. Louis Railroad Company*, for the purpose of building a railroad through Arkansas from a point opposite or near Memphis, "on or near a direct line between the same and the city of St. Louis, Missouri, and running thence as nearly as said company may deem it practicable in the direction of St. Louis, so as to reach a point on or connect with the St. Louis and Iron Mountain Railroad, or any other railroad or point thereon, in that general direction."

The charter was filed in the office of the Secretary of State of the State of Arkansas on the 6th day of March, 1854, and on the 18th day of the same month the Board of Commissioners of said company met and organized by the election of Ethel H. Porter, President of the Company, and J. T. Swayne, Secretary.

As the legal provision is thus obtained for building the Arkansas link of this road, we will now proceed to inquire into the probable length and cost of the same.

For the sake of avoiding circumlocution, we will designate the point on the boundary line between Missouri and Arkansas east of the St. Francis river, where this railroad will probably cross, by the name which is given to the strip of country there extending both into Missouri and Arkansas, that is Grand Prairie, although the village of Grande Prairie is not exactly at this point.

From this point to Memphis, the distance on an air line is about 60 miles, being the same distance as from this point to Indian Ford. By the reports gathered from the experimental surveys of the Iron Mountain Railroad Company throughout various portions of the Swamp District, and from the facts stated by Mr. Ferguson, of Arkansas, the general character of the country from Indian Ford to Grand Prairie seems to be about the same as that

from Grand Prairie to Memphis, and as the air line distance is also the same, therefore it is reasonable to make the same allowance for the length and cost of a practicable route from Grand Prairie to Memphis, as from Indian Ford to Grand Prairie.

Calculating then on this hypothesis, the length of Grand Prairie and Memphis link is 70 miles, and the cost of construction of the same, ready for rolling stock, is \$1,260,000. Calculating the cost of rolling stock together with buildings and fixtures for same at the rate estimated for the Missouri portion, to wit: \$4,000 per mile, 70 miles, it is \$280,000 making the total cost of the Grand Prairie and Memphis road in running order..... \$1,540,000

To which add the total cost of the St. Louis and Iron Mountain road to Grand Prairie in running order..... 7,440,000 And we find the total cost of the road from St. Louis to Memphis..... \$8,980,000

The total distance from St. Louis to Memphis by this route according to the above estimates is 290 miles, which, with a speed on the road of 30 miles an hour, brings St. Louis and Memphis within ten hours distance of each other.

Having ascertained the probable length and cost of the St. Louis and Memphis Railroad, we will proceed to an examination of the Memphis and New Orleans road.

The distance from Memphis to New Orleans on an air line is 342 miles. These two points are connected by a road in process of construction composed of three links, which are the "New Orleans, Jackson and Great Northern Railroad," reaching from New Orleans to Canton, the Mississippi Central Railroad," reaching from Canton to Grenada, Miss., and the "Mississippi and Tennessee Railroad," reaching from Grenada to Memphis.

The distance from New Orleans to Canton, air-line, is.....	175 miles.
Do. Canton to Grenada, air line	78 "
Do. Grenada to Memphis, do.	93 "

Total distance by deviating links, do... 346 miles.
Do. without deviating, do... 342 "

Amount of deviation by the links, do... 4 miles.

By allowing on the sum total a deviation of 44 miles.
from the air line distance of the links. 346 "

The length of the practicable route from Memphis to New Orleans is 390 miles.

In order to show the progress and prospects of this combined enterprise in Louisiana, Mississippi and Tennessee, we will quote a paragraph from the memorial of the Mississippi and Tennessee Railroad Company to the St. Louis and Iron Mountain Railroad Company, dated 18th March, 1854:

"The greater portion of this route is already provided for. From New Orleans to the Mississippi State line the "Great Northern and Jackson road" is nearly completed, and will soon be finished all the way to Canton, Miss.;—thence the "Mississippi Central road" to Holly Springs passing Grenada, Mi., is under contract to be completed in 2½ years. From Grenada our road, the "Mississippi and Tennessee" completes the line to Memphis; and the means at our command warrant us in the confident expectation of its early consummation."

It will thus be seen that the southern and larger portion of the St. Louis, Memphis and New Orleans Railroad is rapidly progressing with brilliant prospects of entire completion long before the Memphis and St. Louis portion can be done, according to present indications.

But the presentation of these facts should stimulate the public mind with renewed activity in behalf of the St. Louis and Iron Mountain Railroad, that while this work is being built to the Mountain, means and spirit may be gained to drive it on to Memphis, that a respectable portion of the 2,000,000 acres of swamp land in South-east Missouri may be applied to its construction, and thereby to their own reclamation; their nett pro-

ceeds remaining a school fund vested in the stock of the railroad company. This is doubtless the best thing that could be done with a large portion of the swamp lands, both in Missouri and Arkansas; and it may be that half enough could be realized from these lands in Missouri and Arkansas together to build the road from Indian Ford to Memphis, 140 miles, the amount necessary to complete this portion, being, according to the above-mentioned estimates, only \$3,080,000. Means may be gained to prosecute this enterprise by arousing a spirit in Congress in behalf of a grant of lands for the Mississippi Valley Railroad, the St. Louis Convention having sent them a memorial on this subject in December, 1852, and the Memphis convention having endorsed the memorial in June, 1853. This grant of land by Congress should be made liberal enough to meet one-half the cost of building this road from St. Louis to Indian Ford, 150 miles. Then, the length of this road being the same from St. Louis to Arkansas, as the length of the North Missouri Railroad from St. Louis to Iowa, each one being by a singular coincidence just 220 miles, and as the cost of construction of the Iron Mountain Railroad is also equal to that of the North Missouri Railroad, and its value to the State also fully equal, it therefore follows that an equal amount of State credit should be granted to each. But the North Missouri Railroad has received..... \$2,000,000 while the Iron Mountain Railroad has received only..... 750,000

Leaving the claim of the Iron Mountain Railroad for..... \$1,250,000 of State credit, which it is but just and reasonable to suppose will be allowed by the Legislature as soon as it convenes.

Let then this swamp land grant, this Mississippi Valley Railroad grant, and this grant of \$1,250,000 State credit be gained, while the contractors are building the road from St. Louis to the Iron Mountain, then means and spirit enough will be realized to drive this work on with energy to Memphis.

The people of St. Louis have already acted with a noble liberality towards their railroad enterprises. They have given \$2,805,000 to the Pacific Railroad, and more than \$2,700,000 to the Mississippi Valley Railroad, about one-half of the last sum to the North Missouri portion, and the other half to the Iron Mountain portion, making the amount given by the city, county and private subscriptions of St. Louis to these railroads over \$5,500,000. Besides, the people of St. Louis have given liberal aid to the railroads in Illinois, and all these works are progressing in every direction. And although the people of St. Louis have raised these means and shown this spirit, they would be ready and willing in case of an emergency to raise and show more. But, for what they have already done, they manifestly deserve the applause of the whole country, from the lakes to the Gulf, from the Atlantic to the Pacific, and should, at the earliest possible moment, receive generous assistance from the State and National Governments, worthy of the magnanimity they have displayed.

The means of the St. Louis and Iron Mountain Railroad Company are as follows, to wit:

Subscription of the city of St. Louis.....	\$500,000
" " " county of St. Louis.....	600,000
Other corporate and private subscriptions	500,000
	\$1,500,000
To this add State credit granted	750,000
Total amount of means at command.....	\$2,250,000
And to this add the amount of State credit, which, as above shown, may be reasonably anticipated	1,250,000

and then we realize the amount of... \$3,500,000 enough to complete the Iron Mountain. To this add the Mississippi Valley Railroad grant and the Swamp Land grant, and thereupon the Company will soon gain means and spirit enough by their own credit, which will then be firmly established on a high and commanding position, to build up

the whole line from St. Louis to Memphis with dispatch and ease.

When this is done, the railroad connection from New Orleans to St. Louis will be complete, while at the same time the North Missouri Railroad Company together with the Iowa and Minnesota interests will be extending this connection to the Falls of St. Anthony, reducing the distance from New Orleans to the Falls by railroad to the same number of miles, New Orleans is from St. Louis, by the river, to wit: 1,200 miles.—*Western St. Louis Journal.*

Journal of Railroad Law.

OVER-ISSUES OF STOCK.

The legal consequences of the late over-issues of railroad stock are still earnestly discussed.

On one side it is argued as follows:

If the Transfer Agent of a Company fraudulently issues stock beyond the amount authorized by law, he thereby wilfully abandons the line of his duty, and by that very act ceases to be the agent of the company which he had previously served, and the stock certificates which he puts forth are wholly spurious and void as would be those of any forger who was entirely a stranger to the company in question. Such so-called stock certificates are not the certificates of the Company. They did not emanate from an authorized agent of the Company. The stock of the Company having, by an act of the Legislature, been limited to a fixed amount, common prudence required that parties purchasing stock should inquire whether the shares offered to them were genuine or spurious. For an Act of Legislature is notice to the public, in relation to the provisions it contains.

There is a broad distinction between mere carelessness on the part of an agent, and wilful fraud. A company in appointing agents is bound to select those whom they have good reason to believe fully competent to discharge their appropriate duties. If such agent proves to be unskillful or negligent, and consequently damages another, the principal is liable to the party damaged. The agent stands in the place of the principal. The damage done by an unskillful or negligent agent, is virtually done by the principal who appointed him. But although a principal may be able to ascertain beforehand with reasonable certainty his proposed agent's qualifications in respect to *prudence* and *ability*, how can he gauge and test the *morality* of such agent? Human nature is mutable and frail, and sometimes shoots madly from its appointed orbit under the influence of peculiar temptations. Few men have sounded the depths of their own hearts, much less those of others. A principal therefore only guarantees that his agent shall be *amply intelligent* and *discreet* for the execution of his trust. He does not engage that the agent may not possibly abandon his trust and rush into crime, thereby subjecting himself to the penalties which the law inflicts upon all wrong-doers. The principal is not implicated in the hidden criminality of his agent, nor in the absence of express Legislation, is he liable for the pecuniary damage flowing from crime which human vigilance can only very partially prevent. *In fine*, if a principal in choosing agents, selects those who are fully *competent* and *prudent* and *unblemished* in regard to moral reputation, then the duty of the principal so far as this matter is concerned is *done*. Nothing further is to be required of him, in regard to the delegation of his authority. If principals were the guarantors of their agents in all respects,

great carelessness would be induced on the part of those having dealings with such agents.

In regard to the enormous amounts of over-issued New York and New Haven stock, which were offered for sale by a late Transfer Agent, they should of themselves have awakened the suspicions of buyers. Those who bought such stock, should have first ascertained whether it was spurious or genuine. And not having done so they should suffer the consequences of their own rashness.

But on the other hand it is urged, that when a Company declares an individual to be the Transfer Agent of their stock, they must be considered as sanctioning whatever acts he performs *under color of his office*. If a then is the agent of a Company for the purpose of transferring its stock, it follows that whatever stock he transfers, be it genuine or not, is virtually transferred by the Company which appointed him, and whatever money was received therefor was virtually received by the Company. While dealing with a *bona fide* purchaser of stock, the Transfer Agent is to all intents and purposes, *the Company*, and the Company cannot repudiate his acts to the prejudice of innocent third parties. The Transfer Agent may, it is true, exceed his authority so far as the Company is concerned, but strangers are not thereby of necessity prejudiced. For the Company having once *accredited* the Transfer Agent to the world are responsible for the consequences of such act, however disastrous to themselves. Purchasers cannot scrutinize the acts of Transfer Agents, for the books of Stock Companies are closed as to them. And, indeed, only professional accountants can ordinarily trace the history and origin of certificates, and that with much time and labor.

Although a principal may not be liable for his agents acts, when the latter *absolutely renounces his agency*, and perpetrates a wilful wrong, yet when the agent acts within *what the public have a right to believe the scope of his legitimate authority*, and in so doing defrauds an innocent third party, the principal is responsible to the sufferer, for it was through the principal's instrumentality that the unfaithful agent was appointed. And if a transfer agent has been for a long time practising frauds which might have been checked by due supervision and scrutiny on the part of the Directors, the Company is liable for such negligence of such Directors, whom they appointed mainly for the purpose of watching their subordinate officers. It cannot be admitted that a Company and the purchasers of spurious stock issued by its officers are equally innocent. The Company enabled the officer to do the wrong. Accordingly if the Cashier of a Bank, corruptly issues a certificate in favor of a party having no funds in Bank, and this certificate comes into the hands of an innocent purchaser, the bank is liable for the amount. And the same is true of Bank notes issued over and above the amount limited by laws. It is true that a principal is not generally presumed to assent to any wilful wrong committed by his agent, *aside from his official duties*. But he is presumed to assent to and to ratify what the agent does under color of his office. On this ground, if an agent is negligent in discharging his duty, the principal is identified with him, and answerable for consequences. In regard to the rights of third parties who have had dealings with agents, the highest

legal authorities declare the question to be, *with what powers had those third parties the right to suppose the agents to be clothed?* If they had good reason to suppose those agents to be authorized to sell what purported to be stock certificates, they were justified in buying them, and can claim indemnity, from the principal whom those agents profess to represent.

A Pennsylvania decision in the case of the Bank of Kentucky, reported in *Parson's Select Equity Cases*, is cited in support of the foregoing view of the case. The Schuylkill Bank of Pennsylvania was the Transfer Agent of the Bank of Kentucky. The stock of the former was limited to 50,000 shares. The Schuylkill Bank, as transfer agent, issued over 13,000 spurious shares. The Bank of Kentucky relieved most of those who had suffered by means of the over issues, by buying in such spurious shares, and then filed a bill in the Philadelphia Common Pleas against the Schuylkill Bank to compel it to refund the money which they had so expended. The Schuylkill Bank insisted that the Bank of Kentucky were under no liability to pay for the spurious stock. The question was argued by the oldest Counsel of Pennsylvania, and decided in favor of the Bank of Kentucky, and on appeal to the Supreme Court of Pennsylvania this decision was affirmed, and the claims of the purchasers of spurious stock to be indemnified were individually sanctioned. So the Bank of England is said to have been declared by the Queen's Bench to be bound by the transfer of Consols by its transfer agents, although such transfer was based upon a forged power of Attorney.—*vs. Birmingham 464.*

Such is a general sketch of the present state of the controversy concerning over issues of stock, which will soon probably occupy the Courts.—Like the subject of mistakes, as Sir Roger De Coverly said, "much may be said on both sides."

Memphis and Charleston Railroad.

We understand that the Directors of the Memphis and Charleston Railroad have sold \$400,000 of their 7 per cent. bonds to their own stockholders and other capitalists of the Tennessee Valley on the terms proposed by them. This we understand will enable the Company with their other means to lay their track through Alabama (150 miles) except 25 miles of iron West of Tusculum.

This is as it should be; our people are able and they should be willing to come up and put a part of their means into such important Internal Improvements as this; especially so, when the security offered is so ample, and the rate of interest is so good. Let every man who can come up and take a few of these bonds; the Company yet need more money to finish and fully equip their road, and the more means they get the sooner they will be able to finish the road and make the stock in it profitable, and give the country the advantages of the road.

Let our people divide their capital more; think less about land, negroes and cotton bales, and they will soon find themselves and their country more independent. Let us rely upon ourselves, build our own roads, keep the interest on the capital in our own country, and give to our Railroad companies the enormous rates of interest, commissions, guarantees, discounts, &c., which most of them have heretofore paid to Northern brokers and which have absorbed so much of the permanent capital of our Companies.

Let us begin to rely on our own resources, and then we can begin to feel independent, and not until then. Let every man take this home to himself, and come up and do his own individual duty

and not wait for some one else to do what he ought to do.—Harrisville Democrat.

American Railroad Journal.

Saturday, August 12, 1884.

Carhart's Turntables.

We are pleased to learn of the continued success of these turntables and that they are rapidly gaining their way to the confidence of the managers of important lines of road in all parts of the country. We know of many new roads both at the South and west which are now engaged in putting them down and many others which have had specimens of them on trial for some months that have now decided to equip their entire lines with them to the exclusion of other plans.

Mr. CARHART is a very worthy and ingenious mechanic who superintends the construction of his turntables in person and we are glad to be able to say he has done so thus far with the most flattering success. Increasing demand for his tables which has arisen from the great satisfaction they have given to engineers and Superintendents who have used them is the best evidence of the character of his work and the utility of his plan. We have no hesitation therefore, in commending Mr. CARHART to the attention of railway managers, on new or old roads, in any and every part of the country. His list of references comprises many of the best managed roads, and the names of engineers and Superintendents of the largest experience throughout the Union.

Stock and Money Market.

The past has been an inanimate week in the share market. Prices have fluctuated somewhat, but, on the whole, are weaker. There is no speculative feeling in the street, and only few operators as nearly all who can leave the city have fled to escape the extreme heat which prevails. August is usually the dulllest month of the year, and this year business of all kinds is unusually slack.

We have returns of the earnings for July from one or two roads only.

We annex those for June as far as received.

	1883.	1884.	Increase.
Cincinnati, Hamilton & Dayton.....	\$32,301	\$39,975	\$7,572
Baltimore and Ohio, (main stem).....	189,967	316,802	126,835
Washington Branch.....	30,639	31,879	1,240
Michigan Southern.....	148,346	185,653	36,706
Michigan Central.....	119,433	171,359	51,925
Macon and Western.....	15,592	19,750	4,158
Cleveland and Pittsburgh.....	35,828	47,229	11,903
Chicago and Rock Island.....	new	113,008	113,008
N. York and N. Haven.....	59,738	70,254	10,519
Pennsylvania Central.....	156,928	227,652	70,674
Norwich and Worcester.....	26,411	25,780	.....
New York Central.....	382,654	492,734	111,079
New York and Erie.....	336,018	398,750	62,731
Ohio and Pennsylvania.....	55,244	82,059	26,815
Hudson River.....	94,978	128,073	33,094
Milwaukee and Mississippi.....	18,585	45,078	26,490
Detroit and Pontiac.....	5,407	6,118	1,410
Sixth Avenue.....	.....	21,976	.....
Eighth Avenue.....	.....	25,758	.....
Kennebec & Portland.....	12,176	17,700	5,524
Stonington.....	21,244	20,966	.....
Galena and Chicago.....	49,010	120,879	71,869
Indiana Central.....	new	27,205	27,205
Rome and Watertown.....	31,334	39,506	8,172
Cleveland & Columbus.....	91,366	117,144	25,778

Railway Share List.

Compiled from the latest returns—corrected every Wednesday on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net Earnings for last official yr.	Dividen ^d for do.	Price of Shares.
Atlantic and St. Lawrence... Maine.	150	1,538,100	2,973,700	5,973,700	254,743	113,520	none	86
Androscoggin and Kennebec... "	55	824,863	1,043,540	2,036,140	177,003	80,053	none	32
Kennebec and Portland..... "	72	1,073,673	1,439,694	2,520,981	168,114	100,552	none	42
Port., Saco and Portsmouth.. "	51	1,355,500	123,884	1,459,384	208,669	.....	6	95
York and Cumberland..... "	20	285,747	341,100	713,605	23,946	11,256	none	24
Boston, Concord and Montreal. N. H.	93	1,649,278	622,200	2,540,217	150,538	79,659	none	27
Concord..... "	35	1,485,000	none.	1,485,000	305,805	141,836	8	105
Cheshire..... "	54	2,078,625	720,900	3,002,094	287,768	55,266	5	35
Northern..... "	82	3,016,634	.....	.....	328,782	163,075	5	49
Manchester and Lawrence.... "	24	717,543	.....	.....	.....	.....	6	88
Nashua and Lowell..... "	15	600,000	none.	651,214	132,545	51,513	8	104
Portsmouth and Concord.... "	47	.....	.....	1,400,000	.....	.....	none	.....
Sullivan..... "	26	.....	.....	673,500	.....	.....	none	10
Connecticut and Passumpsic.. Vt.	61	1,097,600	550,000	1,745,516	.....	.....	none	21
Rutland..... "	120	2,486,000	2,429,100	5,577,467	495,397	266,539	none	9
Vermont Central..... "	117	8,500,000	3,500,000	12,000,000	.....	.....	5	.....
Vermont and Canada..... "	47	1,500,000	.....	1,500,000	.....	.....	ent.	82
Western Vermont..... "	51	392,000	700,000	.....	Recently	opened.	none	.....
Vermont Valley..... "	24	.....	.....	.....	.....	.....	none	.....
Boston and Lowell..... Mass.	28	1,830,000	206,190	2,044,536	434,599	114,098	6	81
Boston and Maine..... "	83	4,076,974	150,000	4,111,345	803,024	418,358	8	100
Boston and Providence..... "	55	3,160,000	402,326	3,579,041	509,326	226,639	6	77
Boston and Worcester..... "	69	4,500,000	590,541	4,850,754	887,219	413,289	7	96
Cape Cod branch..... "	29	421,950	180,000	633,906	68,942	26,412	5	40
Connecticut River..... "	52	1,591,110	286,363	1,802,244	258,220	102,098	4	52
Eastern..... "	58	2,850,000	1,192,975	3,120,391	620,810	310,875	6	65
Fall River..... "	42	1,050,000	6,208	1,050,000	294,183	126,589	8	90
Fitchburg..... "	67	3,540,000	191,500	3,716,870	626,659	214,633	6	85
New Bedford and Taunton... "	20	500,000	none.	529,964	188,442	46,839	7	117
Boston and New York Central "	74	1,159,228	953,370	2,221,068	90,315	35,214	none	50
Old Colony..... "	45	1,964,070	295,038	2,293,534	374,897	122,866	none	92
Taunton Branch..... "	11	250,000	none.	307,136	159,738	21,490	8	.....
Vermont and Massachusetts.. "	77	2,233,939	1,139,615	3,207,818	244,323	13,144	none	11
Worcester and Nashua..... "	46	1,140,000	194,445	1,342,593	182,398	81,807	5	60
Western..... "	155	5,150,000	5,319,520	9,953,258	1,525,224	746,736	7	93
Stonington..... R. I.	50	.....	467,700	.....	240,572	110,892	.....	67
Providence and Worcester... "	40	1,457,500	300,000	1,791,999	291,417	120,892	6	97
Canal..... Conn.	45	922,500	500,000	1,400,000	.....	.....	4	65
Hartford and New Haven.... "	72	2,350,000	800,000	3,150,000	639,529	294,269	10	116
Housatonic..... "	110	.....	.....	2,500,000	329,041	168,902	none	.....
Hartford, Prov. and Fishkill.. "	50	.....	.....	In progres	69,629	.....	none	.....
New London, Wil. and Palmer "	66	558,861	800,000	1,511,111	114,410	.....	.....	.....
New York and New Haven.... "	61	3,000,000	1,641,000	4,978,487	806,713	428,173	7	.....
Naugatuck..... "	62	926,000	440,000	.....	.....	.....	8	.....
New London and New Haven.. "	55	750,500	650,000	1,380,610	Recently	opened.	none	40
Norwich and Worcester..... "	54	2,121,110	701,600	2,596,488	267,561	116,965	4	50
Buffalo and New York City.. N. Y.	91	900,000	1,550,000	2,550,500	Recently	opened.	none	.....
Buffalo, Corning and N. York. "	132	.....	.....	In progres	.....	.....	none	.....
Buffalo and State Line..... "	69	879,636	872,000	1,921,270	Recently	opened.	.....	130
Canandaigua and Niagara F.. "	50	.....	.....	In progres	.....	.....	.....	.....
Canandaigua and Elmira..... "	47	425,509	582,400	987,627	76,760	39,360	none	.....
Canaya and Susquehanna..... "	35	687,000	400,000	1,070,786	74,241	23,496	none	.....
Erie, (New York and Erie).... "	464	10,000,000	24,003,865	33,070,863	4,318,962	1,800,181	7	45
Hudson River..... "	144	3,740,515	7,046,395	10,527,654	1,063,659	338,783	none	52
Harlem..... "	130	4,725,250	977,463	6,102,935	681,445	324,494	4	.....
Long Island..... "	95	1,875,148	516,246	2,446,391	205,068	44,070	none	28
New York Central..... "	504	23,085,600	10,773,823	33,859,423	.....	.....	.....	91
Ogdensburg (Northern)..... "	118	1,579,969	2,969,760	5,133,834	480,137	195,847	.....	10
Oswego and Syracuse..... "	35	350,000	206,000	633,598	92,353	46,072	.....	.....
Plattsburg and Montreal.... "	23	174,042	131,000	349,775	Recently	opened.	none	.....
Rensselaer and Saratoga.... "	25	610,000	26,000	774,495	213,078	96,737	.....	.....
Rutland and Washington..... "	60	850,000	400,000	1,250,000	Recently	opened.	.....	.....
Saratoga and Washington.... "	41	899,800	940,000	1,832,945	173,545	135,017	none	30
Troy and Rutland..... "	32	237,690	100,000	329,577	Recently	opened.	.....	33
Troy and Boston..... "	39	430,936	700,000	1,043,357	Recently	opened.	none	.....
Watertown and Rome..... "	96	1,011,940	650,000	1,693,711	225,152	116,706	8	92
Camden and Amboy..... N. J.	65	1,500,000	.....	4,327,499	1,388,385	478,413	10	148
Morris and Essex..... "	45	1,022,420	128,000	1,220,325	149,941	79,252	7	.....
New Jersey..... "	31	2,197,840	476,000	3,245,720	603,942	316,259	10	131
New Jersey Central..... "	63	986,106	1,500,000	2,379,880	260,899	124,740	3	.....
Cumberland Valley..... Penn.	56	1,184,500	13,000	1,265,143	118,617	76,890	5	.....
Erie and North East..... "	20	600,000	.....	750,000	Recently	opened.	.....	125
Harrisburgh and Lancaster.. "	36	830,100	713,227	1,702,523	265,327	106,820	8	55
Philadelphia and Reading.... "	95	6,656,332	10,427,800	17,141,987	2,480,626	1,251,987	7	62
Philad., Wilmington and Balt. "	98	5,000,000	2,399,166	8,067,285	868,038	541,769	5	68

Railway Share List.

Compiled from the latest returns—corrected every Wednesday—on a par valuation of \$100.

NAME OF COMPANY.	Miles open.	Capital paid in.	Funded debt.	Tot. cost of road and equip't.	Gross Earnings for last official year.	Net earnings for last official yr.	Dividend for do.	Price of shares.
Pennsylvania Central..... Penn.	250	9,768,155	5,000,000	13,600,000	1,948,827	617,625	....	97
Philadelphia and Trenton.... "	30	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co..... "	47	.....	.....	.....	.....	.....	.....	102 1/2
Baltimore and Ohio..... Md.	381	18,118,902	5,677,103	22,254,338	2,083,420	798,193	7	50
Washington branch..... "	38	1,650,000	.....	1,650,000	348,622	216,287	8	.....
Baltimore and Susquehanna.. "	57	.....	.....	.....	413,673	152,536	.....	.....
Alexandria and Orange..... Va.	65	.....	.....	In prog.	.....	.....	.....	.....
Manassas Gap..... "	27	.....	.....	In prog.	.....	.....	.....	.....
Petersburgh..... "	64	769,000	173,867	1,163,928	227,593	72,370	7	77
Richmond and Danville..... "	73	1,372,324	200,000	In prog.	.....	.....	.....	70
Richmond and Petersburg.. "	22	685,000	.....	1,100,000	122,861	74,113	none	40
Rich., Fred. and Potomac.... "	76	1,000,000	503,006	1,531,238	254,376	113,256	7	100
South Side..... "	62	1,357,778	640,000	2,106,467	62,762	.....	.....	.....
Virginia Central..... "	107	1,673,684	469,150	2,392,215	210,052	99,077	10	50
Virginia and Tennessee.... "	73	2,650,091	707,958	3,545,256	109,268	42,736	none	98
Winchester and Potomac.... "	32	180,000	120,000	416,532	89,776	.....	12	.....
Wilmington and Raleigh.... N. C.	161	1,338,878	1,134,698	2,965,574	510,038	153,898	6	.....
Charlotte and South Carolina. S. C.	110	.....	.....	.....	.....	.....	.....	.....
Greenville and Columbia.... "	140	1,004,231	500,000	In prog.	.....	.....	.....	.....
South Carolina..... "	242	3,858,840	3,000,000	7,002,396	1,000,717	609,711	7	125
Wilmington and Manchester. "	.....	.....	.....	In prog.	.....	.....	.....	.....
Georgia Central..... Ga.	191	3,500,000	418,187	3,465,879	986,074	535,608	8	116
Georgia..... "	211	4,000,000	1,214	.....	934,424	456,468	7 1/2	.....
Macon and Western..... "	101	1,013,088	163,000	1,277,334	278,739	149,960	9	101
Muscogee..... "	71	.....	.....	In prog.	59,590	21,731	.....	.....
South Western..... "	50	586,887	150,000	743,525	129,395	71,535	8	.....
Alabama and Tennessee River Ala.	55	.....	.....	In prog.	.....	.....	.....	.....
Memphis and Charleston.... "	93	776,259	400,000	In prog.	.....	.....	.....	.....
Mobile and Ohio..... "	33	879,868	.....	In prog.	.....	.....	.....	.....
Montgomery and West Point. "	88	688,611	.....	1,330,960	173,542	76,079	8	.....
Southern..... Miss.	60	.....	.....	.....	.....	.....	.....	.....
East Tennessee and Georgia.. Tenn.	80	835,000	541,000	In prog.	.....	.....	.....	.....
Nashville and Chattanooga.. "	125	2,093,814	850,000	In prog.	.....	.....	.....	.....
Covington and Lexington.... Ky.	38	1,430,150	900,000	In prog.	.....	.....	.....	63
Frankfort and Lexington.... "	29	357,218	.....	584,902	87,421	44,250	.....	80
Louisville and Frankfort.... "	65	.....	.....	.....	.....	.....	.....	.....
Maysville and Lexington.... "	.....	.....	.....	In prog.	.....	.....	.....	45
Cleveland and Pittsburgh.... Ohio.	100	1,979,100	1,142,200	3,279,908	432,682	267,278	10	59
Cleveland and Toledo..... "	147	2,000,000	1,600,000	.....	.....	.....	.....	77 1/2
Cleveland, and Erie..... "	95	.....	.....	.....	.....	.....	.....	.....
Cleveland and Columbus.... "	135	3,027,000	408,200	3,655,000	777,793	483,454	12	100
Columbus, Piqua and Indiana. "	46	.....	.....	2,000,000	.....	.....	.....	65
Columbus and Lake Erie.... "	61	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ham. and Dayton "	60	2,100,000	500,000	2,659,653	321,793	200,967	.....	102 1/2
Cincinnati and Marietta.... "	.....	.....	.....	In prog.	.....	.....	.....	62
Dayton and Western..... "	40	310,000	550,000	925,000	Recently opened.	.....	.....	75
Dayton and Michigan..... "	20	.....	.....	In prog.	.....	.....	.....	.....
Eaton and Hamilton..... "	36	.....	.....	.....	.....	.....	.....	56
Greenville and Miami..... "	31	.....	.....	.....	.....	.....	.....	.....
Hillsboro..... "	37	.....	.....	In prog.	.....	.....	.....	.....
Little Miami..... "	84	2,668,402	482,000	3,169,733	667,559	352,133	10	111
Mansfield and Sandusky.... "	.....	900,000	1,000,000	1,855,000	.....	.....	.....	.....
Mad River and Lake Erie.... "	167	2,387,200	1,767,000	4,110,148	540,518	113,401	.....	77 1/2
Ohio Central..... "	57	.....	.....	In prog.	.....	.....	.....	79
Ohio and Mississippi..... "	.....	.....	.....	.....	.....	.....	.....	.....
Ohio and Pennsylvania..... "	187	1,750,700	2,450,000	.....	.....	.....	.....	.....
Ohio and Indiana..... "	.....	.....	.....	In prog.	.....	.....	.....	.....
Scioto and Hocking Valley... "	44	750,000	300,000	.....	.....	.....	.....	.....
Columbus and Xenia..... "	54	1,291,700	26,000	1,310,062	314,434	168,612	10	107
Evansville and Illinois..... Ind.	31	.....	.....	In prog.	237,506	.....	.....	.....
Indiana Central..... "	.....	.....	.....	.....	.....	.....	.....	77 1/2
Indiana Northern..... "	131	.....	.....	.....	.....	.....	.....	.....
Indianapolis and Bellefontaine "	83	.....	.....	.....	.....	.....	.....	90
Indianapolis and Cincinnati.. "	90	1,128,486	1,289,000	1,869,932	.....	.....	.....	76
Lafayette and Indianapolis.... "	62	.....	.....	.....	.....	.....	.....	.....
Madison, Indianapolis & Peru "	159	2,647,700	1,241,300	2,400,000	516,414	268,075	10	82
Terre Haute and Indianapolis "	72	632,387	663,100	1,353,019	105,944	71,446	4	108
Rock Island and Chicago.... Ill.	.....	.....	.....	.....	.....	.....	.....	.....
Chicago and Mississippi..... "	135	2,400,000	4,000,000	4,600,000	.....	.....	.....	.....
Illinois Central..... "	.....	.....	.....	.....	.....	.....	.....	.....
Galena and Chicago..... "	92	.....	500,000	In prog.	473,548	286,152	.....	123
Michigan Southern and Ind. N. Mich.	315	.....	3,741,564	7,276,616	1,200,922	586,929	17	94
Michigan Central..... "	282	.....	3,977,563	8,618,505	1,145,598	582,816	8	87
St. Louis and New Orleans.... Mo.	38	.....	non	In progress	.....	.....	.....	.....

The earnings of the Erie Railroad were largely reduced by the strike of the engineers in the employ of the Company. The amount of travel the present season is much less than was expected. Owing to the very general prevalence of the cholera we presume the western roads will be much more afflicted than any others. Still the result will probably show a large increase over a similar period for the past year. There does not appear to be any good reason for the present low prices of railway property in the receipts of our companies. Roads that unquestionably are earning, and in fact paying, dividends, ranging from 7 to 10 per cent. are very much depressed for no fault in the securities themselves, but from the fact that the market is overstocked, or that the public does not take a fancy toward railway investments. Confidence in the productiveness of railroads does not appear to be shaken, as the receipts of these works have more than justified expectation and have exceeded what was claimed for them.

The coinages of the Philadelphia Mint for seven months of 1854 have been \$28,911,559 against 35,879,927 for the same period of 1853. The deposits for the same period compared with those for 1853 have been as follows.

	1853.	
	Gold.	Silver.
January.....	\$4,962,097	\$14,000
February.....	2,548,523	13,560
March.....	7,533,752	70,000
April.....	4,766,009	2,550,000
May.....	4,425,000	1,447,000
June.....	4,545,169	1,447,000
July.....	3,505,331	611,000

Total. \$33,285,882 \$6,152,560

	1854.	
	Gold.	Silver.
January.....	\$4,215,579	\$108,000
February.....	2,515,000	1,166,000
March.....	3,982,000	147,500
April.....	3,442,000	129,000
May.....	4,000,000	196,000
June.....	4,000,000	100,000
July.....	3,910,000	310,000

Total. \$25,659,579 \$2,156,500

The exports for the same period have been \$20,368,436, of which \$14,738,871 have been in bars.

Syracuse and Binghamton Railroad.

We learn that the work of laying iron on this road is making rapid progress, some 45 miles of the 80 being already completed. The balance of the work will be vigorously pushed forward, and the entire road will be ready for business in the fall, and in season to supply Syracuse and Oswego with their winter supply of coal. An abundant business awaits the opening of the road, which, with the low cost of the former, must render it a highly productive work.

New Railway Map.

Our new Railway map showing all the roads projected, in progress, and in operation in the United States and Canada at the present time, is ready for distribution. Price by mail ONE DOLLAR—Railway Companies supplied with copies to illustrate reports with their lines and connections colored on them at reduced prices. Address American Railroad Journal 9 Spruce st. New York.

Improvement of the Locomotive.

BY ZERAH COLBURN.

As an engineer and author, constantly engaged in the development and illustration of the locomotive, I have been often solicited to prepare a connected treatise upon its history, present condition and possible future improvement.—I have already supplied much descriptive matter in illustration of this subject, in a special treatise, now admitted as the only purely practical work on the American Locomotive. I have also often indicated many disconnected details of a system of improvements, and have urged their adaptation and adoption, and in such efforts am best known by the readers of this Journal.

The locomotive is, and, since its origination has always been in an intermediate and not in an ultimate state of improvement. In the early periods of steam locomotion, when the steam engine was in a primitive state, the relative merits of different arrangements could not always be clearly comprehended, and in the absence of improved standards of discrimination, the plans adopted by different builders were of very dissimilar character.

As experience, acquired in active competition among railroad companies and engine builders, developed superior arrangements and proportions, these were gradually adopted, and thereby was initiated an assimilation of the style of locomotives throughout the country; so that the engines of the present day approach a general standard, recognized by similar characteristics, in engines of different origin.

This tendency still exists, inasmuch as it has not yet perfected the locomotive. Efforts for improvement, and consequent assimilation of style, have still an ample field for success. Preferences, based upon a primitive practice of engineering, still operate in the construction of engines.

With this view, I shall make the present the introduction to a connected series of future articles, devoted to the consideration and analysis of a consistent system of improvements in the locomotive steam engine; not reaching altogether beyond the standard of present attainments, but discussing also the differences which occur in actual practice, with engines of different paternity.

With this purpose, I shall not enter into the description of details of machinery, any further than to indicate or establish principles, assuming that my readers are conversant with the construction and mechanical arrangements of locomotives as generally built. But although dispensing with "popular description," as characteristic of an elementary work, the tone of my discussion will be of an essentially practical character, and fully comprehensible by any who have observed the general structure of the locomotive.

It is always and already time to measure the means at our command for increasing the efficiency and economy of locomotives. The most effective and economical arrangements possible, may not be supplied as soon as the occasion may arise to change the plan or proportions of engines. The Hudson River, New York Central or any great trunk road in any part of the country may yet have an accession of business beyond the capacity of the engines at present in use. Were there occasion, to day, to put upon the narrow gauge an engine of double the power of the average of those

in use, what engineer would accomplish the result at first trial, and preserve all the excellencies of the present system of motive power?

In anticipation of such a problem, engineers will do well to prepare themselves by every possible consideration of strength, weight, compactness, connection, and proportion of every material and member of the locomotive.

Car Ventilation.

This subject continues to engross considerable of the public attention and deserves far more of it than it receives. The following communications evidently represent two distinct theories of ventilation, the respective parties considering their own superior. Would it not be much better for the advancement of the cause of healthy ventilation, for each one of our correspondents to state what he deems the cause of the difficulty, and then state explicitly how he expects to overcome it by his mode of ventilation, than to spend so much time in demonstrating why any particular mode will not answer. Let experiments decide the utility of all, if the proprietors are willing and able to experiment, for that is the only process by which an inventor can be satisfied.

Correspondents should endeavor to be brief as possible, avoiding repetitions, and contradictory statement. If they must needs be critical or controversial they owe it alike to themselves and their opponents, to make themselves thoroughly acquainted with the plans they criticize and discuss: Had "P. M. H." carefully examined Mr. LANCASTER's plan as described in his advertisement. We think he would not have used the expression "when a window or blind is opened." If he had closely observed the very first paragraph he would have discovered that the outer windows were not intended to be opened.

(For the American Railroad Journal.)

If P. M. H. had not seen fit to repeat twice or more in his short article his chief objection to the Naugatuck Valley ventilator—that while passing through a train the air becomes charged with obnoxious odors from the bodies through and among which it circulates, and thus becomes impure and poisonous, it should have passed without further notice from me; but as such a reiteration may do injury to what I believe to be the best plan yet devised I must ask room for a few figures, which most persons who read your Journal know how to appreciate when set against random assertions.

Experiments with a very delicate anemometer have shown that from 8000 to 15000 cubic feet of air will enter the first car per minute, varying according to the speed of the train.

A person breathes one fifth to one sixth of a cubic foot of air per minute; but the physiologists as they study the subject of healthy respiration become very exacting or squeamish and insist that each exhalation we vitiate 10 to 12 times as much as we breathe, thus they make out that each person vitiates 2 cubic feet a minute. According to this required supply Atwood and Waterbury's mode furnishes enough air for the healthy respiration of 4000 to 7500 passengers.—But a train of ten cars has only 500 to 600 passengers. Comment is unnecessary.

The writer was one of those present on experimental the trip 20th inst., on the New York and

New Haven Railroad to test this invention. Two or three persons were smoking in the first car when his attention was called to the fact and that the smoke could not be smelled in the rear cars. All the other smokers had the consideration to go to the rear of the train, for doubtless an addition of two or three more would have rendered the smoke perceptible. This experiment demonstrates the propriety of the intimation in my former communication, that the supply of pure air is so abundant as to render it much like riding in the open air. All odors likely to arise are so diluted and dissipated as not to be perceptible.

As a proof of the perfection of this mode of ventilation I wish to state that in cold weather, when the moisture of the breath would condense and ran down the glass in the cars supplied with air in the old way, no moisture would collect on A and W's cars, though if the front and rear door of one of their cars were closed it would appear in ten or fifteen minutes, but it would disappear in about the same time it took to collect when their mode was applied. K.

Bridgeport 31st July '54.

(For the American Railroad Journal.)

Your correspondent "K" in replying to P. M. H. has made some statements with reference to "Paine's system" that I feel called upon to correct, not merely for the sake of my bantling, or the disproving of "K's" position, but because I believe the discussion of the matter will bring out facts which new experimenters are not aware of, and thus, while saving them from expense and disappointment, furnish the elements of future success. "K" is wrong in assuming that Paine uses injectors or that the air is injected into the car.

The currents entering the car do not owe their velocity to the motion of the car roof through the air; the air currents always passing through the apertures in the roof, with eight to ten times the velocity of the trains' motion, and consequently do have a velocity of "300 miles per hour." Seven eighths of the velocity and quantity of air entering the feeds in the roof is due to the *exhausting properties of the windows*, and it is the peculiar feature in the windows which draws the air out of the car, which constitutes Paine's patent. I am pleased that "K" has made the matter one of figures, and here are mine. If the induct or feed of an air pump be one twelfth of the area of the piston, the velocity of the entering air will always be twelve times that of the piston. Now according to "K," Paine's feeders or "injectors" have a capacity of 2.2 and according to Paine each window has an aperture or exhausting area of 90 square inches, which multiplied by 32, the number of windows in a car, gives us about 20 square feet of piston, or exhausting surface to 2 feet of feed duct, and it follows that the air entering has a velocity as ten to one compared with the cars motion, which allowing it to be 30 miles per hour, will be "300 miles per hour." But an ocular demonstration has been, and can be made at any time, that the car is emptied 30 times in a minute. Make a smoke in the center of the car, and in two seconds of time it will reach the window.

The action of the windows in drawing air from the interior of the car is such that if but a simple hole is made in the roof a strong current of air will be drawn down into the car and out through

the windows. The only use of the projections above the roof being to manage the entering currents so as to free them from cinders; there is no injection about the matter, and "K" does not comprehend the subject he has criticised.

It may be asked, if so simple and perfect a mode exists why do not Railroad Companies adopt it?—

There are two replies to this question: First, too much is asked for the patent: second, under certain conditions smoke and the hot gases from the stack enter the feed on the roof. The last objection is a valid one, and if any mode can be devised to get rid of the smoke before it reaches the train, there is no difficulty in making a train as comfortable as a boat, and that too without any other fixtures or appendages than belong to the ordinary car-windows and ventilators.

H. M. PAINE.

(For the American Railroad Journal.)

The tenor of your last article on car ventilation seems to invite my opinion of Mr. Lancaster's mode of ventilation. As regards my opinion and its value in those matters permit me to remark, that it is predicated of practical experiment, not of theoretical supposition, and I am responsible for what I write as statements of facts. I am impatient to see perfect ventilation accomplished, and I cannot tamely witness time wasted, and railroad companies hardened against some good plan that may come up, by experiments that past experience have exploded. Your Journal is the oracle of railroad interests in this country, and if a few plain facts stated in its columns can serve the purpose of experiments, its value will most certainly be none the less.

Before proceeding to notice Mr. Lancaster's mode of ventilation allow me to make a parting allusion to the Atwood and Waterbury system. Your correspondent "K." admits that the air which passengers breathe in the eighth car of a train must first pass through the seven cars ahead, but qualifies the admission by saying, "that the air rushes through the cars in such an amount as to dilute beyond the keenest smell all odors that have yet arisen." "K." does not give the velocity of this rush of air through the train, but the inventor rates it at from 4 to 8 miles per hour. It is not denied that such a current may exist in the first or second cars, in their passage ways, but it is denied that a current of *one mile per hour* is induced in a line with the passengers seats. The passenger next the gang way may perceive a current, but the one next the window does not. Does "K." wish a proof of this, let him place a brazier of coals on a passenger seat, and scatter some resin on them so as to produce a smoke. The smoke as it rises will describe eddies, slow and graceful in their gyrations, with an almost imperceptible motion towards the rear of the car. As car after car is reached those eddies grow less and less, and the smoke assumes the cloud form. And just so do the breath and exhalations of passengers move through the train, and this is called ventilation!

Mr. Lancaster's mode of ventilation has the negative merit of being harmless. It is a system of injection. The air currents enter between the double roof with a velocity equal to that of the trains motion, but are at once retarded by the friction of their conduit and their deflection into the air channels or chambers on the cars' sides. The

pressing force of the air current will certainly be less in the car than it was at the entrance of the conduit, and the velocity of the currents passing and pressing on the cars' external surface being equal to the entering current, how can it be expected that these weakened currents will neutralize the strong external one when a window or a blind is opened. During the summer of '52 a car running between Worcester and Springfield was fitted with ten injectors on its roof, the sum of whose area was five square feet. It was supposed that the great amount of air thus thrown down into the interior of the car would create an interior pressure sufficient to expel any dust or cinders from the windows' openings. But on trial, under a speed of 50 miles per hour, a window could not be opened without the dust rushing in and when the window was closed the car was so hot as to oblige the passengers to leave it. Mr. Lancaster's plan or any other having for its basis the principle of interior pressure, will not accomplish the result, without involving requirements inconsistent with railroad usage.

P. M. H.

Reciprocal Treaty with the British Provinces.

One of the last acts of Congress at its recent session, was a confirmation of the Treaty for removal of duties on certain articles of commerce between the British North American Provinces and the United States. As the operation of the Treaty is confined to the products of the Provinces, which are chiefly of the soil, and of fisheries, it would appear to be much more favorable to their interests, than to those of this country, as we already produce a surplus of all, or nearly all, the articles exempted from duty, except lumber and coal. That the Provinces will realize a greater relative advantage from the arrangement just entered into, than the United States, we have no doubt; but it would hardly be possible for the former to yield more at the present time; for to admit our manufactures *duty free*, would be to give up the sources of the present revenue by which all the expenses of their government are defrayed. All things considered the Treaty secures to us all that the Provinces could well yield, or this country could reasonably ask. We shall derive a substantial advantage from it, and it is no good ground against it, that other parties will gain more than ourselves.

Commercially, the British Provinces are as much to be benefitted by free trade with the United States as are Louisiana or Texas. The natural and convenient markets for all, are the Northern and Eastern States, which are occupied by our manufacturing and commercial classes. A very considerable portion of the products of the Provinces will not bear exportation to the mother country. They have been excluded from the markets of this, by high duties. The result has been that the Provinces, the lower ones particularly, have shown an enfeebled and languid growth when contrasted with the progress of the States, though in possession of unequalled resources. The new Treaty which removes all obstructions to intercourse with their best markets, will form an era in their history.

The treaty is gratifying evidence of the progress of liberal ideas in national intercourse. We have no doubt its provisions will be extended so

as to embrace within a few years, all the articles of commerce between the two countries, so that practically the people of both will form one community, whatever may be the peculiarities of their local institutions.

Mississippi Central Railroad.

Below we give the statement of the Mississippi Central Railroad Company. It will be seen that they are progressing quietly, but energetically, in the construction of their road, with means supplied by the contributions of the people upon its line. This fact presents a striking and refreshing contrast to the usual course of railroad companies in seeking to borrow before they have hardly put a spade into the ground. The road will be constructed with despatch, without incurring a debt, or at least one of any considerable magnitude. The promptness with which the necessary funds are furnished is owing in part to the trust reposed in the managing parties in the road, who possess the entire confidence of the people of Mississippi, a confidence greatly strengthened by their judicious management of the company's affairs. There are no lack of means in that portion of Mississippi traversed by the above line, but it is necessary that the people should be made to believe that they will *secure* the construction of the proposed work to call them out.

The country through which the above road will run is one of the best in the South. There is none better settled, or which can show a larger amount of productions. The great staple is cotton, all of which is to be exported; and, of course, corresponding amount in bulk, or value, imported. The road is built mainly for the incidental advantages that are to follow, though we have no doubt it will yield in dividends a large return upon its cost. The connections it will form will add largely to its value and usefulness.

As far as Mississippi is concerned its success will constitute a marked event in the history of that State. It will inspire a degree of self-confidence and self-reliance on the part of her citizens which will render the execution of similar enterprises comparatively easy. It is a great thing to have a commendable example set in the outset. Such a one is the manner in which the affairs of the Mississippi Central R.R. have been conducted; and those who have been mainly instrumental in its success, are entitled not only to the gratitude of those immediately to be benefitted, but to the respect and imitation of the whole State.

REPORT OF THE DIRECTORS TO THE STOCKHOLDERS.

Soon after the adjournment of your last annual meeting a contract was concluded with Healy, Holeman, Sims & Sargent for the construction and equipment of your road from the town of Canton to the State line of Tennessee. The terms and conditions of the contract are in strict accordance with the basis of an agreement submitted for your consideration at the meeting above referred to, and approved of by an unanimous vote of stockholders then present. The contract is deemed highly favorable to your interest, securing the completion of the work at an early day, for a stipulated compensation, and on terms that should render it satisfactory to all the parties interested. While it promises to you the speedy construction of an economical and permanent road, it offers assurances to the contractors of a reasonable remuneration for labor performed and risk incurred, should they prosecute the work with the skill and economy they have heretofore exhibited in the execution of works of the same or similar character.

It is stipulated in the contract that the road being one hundred and eighty-three miles in length, with necessary side tracks—shall be completed, as now located, by January 1857, for the sum of \$3,262,500. This amount includes the cost of the necessary locomotives, passenger and freight cars, with all the fixtures for operating the road when completed, and all engineering expenses with the exception of the salary of the Engineer in Chief.—In every particular the work is to equal a first class road of the materials of which it is to be constructed.

Ground was first broken on the line of road at Holly Springs, on the 16th of November last, in the presence of the Board of Directors and a large concourse of citizens, assembled to witness and participate in the ceremonies of the day.

It was a source of pride to all who joined in the festivities of that day, and may well be a source of congratulation to each and all of the stockholders of the Company, as well as to the citizens of the State generally, that for the favorable pecuniary condition of the Company, and the certainty of the successful prosecution of the work now in progress, they were indebted to no foreign capital, to the aid of no commercial city or town, but solely to the liberality and enterprise of our own citizens, and mainly to the planting interest of the counties through which the road is to pass.

Active operations in the construction of the road bed were commenced by the contractors in December last, about twelve miles north of Holly Springs. From the progress made in the work on that part of the line and from the number of hands now employed thereon, you may confidently rely upon the road being in readiness for the cars from Holly Springs to the intersection of the Memphis and Charleston Railroad, a distance of twenty-five miles, by the first of January next.

During the month of January nearly all the earthwork within the limits of Yalabusha county was sub-let by Messrs. Healy & Co., to the citizens of that county, who soon thereafter commenced operations on their several contracts and are now prosecuting the work with an energy that gives assurance of its early completion.

Most of the graduation between the Tallahatchie River and town of Oxford, a distance of fourteen miles, has recently been sub-let to the citizens of Lafayette county, and it is expected that the work of the construction will soon be commenced on that part of the line.

Proposals are now solicited for clearing, grubbing and grading the roadway in Carroll and Holmes counties, and should the citizens of those counties exhibit the same willingness to undertake work on that part of the road, that has been exhibited in the other counties, the commencement of operations on that part of the line, during the present summer or fall will be placed beyond reasonable doubt.

From the well known character and ability of the sub-contractors to comply with their engagements, the directory feel confident that the work undertaken by them will be completed within the time, and in accordance with the stipulations of their several agreements.

It has ever been the desire of the Board of Directors that citizens of this State should undertake and execute the work necessary to prepare the road-bed for the iron rails, and thus enable the Company to return to our own people, as a compensation for labor performed, some portion of the funds obtained from them for the construction of the road.

The contractors, Messrs. Healy & Co., have at all times cheerfully co-operated with the directory in their efforts to accomplish this object, and it gives me pleasure to add, that nearly all the sub-contracts have been taken by men residing near the line of road, who, so far as the Directory are advised, are well satisfied with the compensation they are receiving for the work executed by them. By a continuation of this course, employment may be furnished to the surplus labor of this part of the State, our citizens benefitted by the profits of that labor, a greater number of hands at all times

engaged on that work, and the original contractors will thus obviate the necessity of introducing more laborers from other States than will be required to execute that part of the work that our own citizens are unwilling to undertake.

It was first determined, to commence the construction of the work on several divisions of the line to which iron could be most certainly and cheaply transported, at about the same period of time.

With this object in view, and with a desire that stockholders of the Company and citizens of the State should first have an opportunity of undertaking such portions of the work as they should wish to execute, in the month of December last, immediately after the commencing of the work on the northern division, an effort was made to sub-let the earthwork on that part of the southern division of the road within the limits of Madison and Yazoo counties. In consequence of the prices demanded for executing the work desired, the difficulty of obtaining the right of way without the prospect of paying heavy damages therefor; the unwillingness of the citizens of Madison county to aid in the construction of the road, by subscriptions to the capital stock of the Company, when they were to be greatly benefitted by its construction; the doubts then existing in regard to the completion of the Great Northern road to Canton, and the possibility of promoting your interest by extending your road to the city of Jackson; all combined to induce the directory to postpone for a time the commencement of the work on that part of the line, believing as they did, that a short delay would be advantageous to your interest by a removal of some or all of the then existing obstacles to an economical prosecution of that part of the work, and at the same time to give to the directory an opportunity to ascertain if a proper regard for your interest did not require that the road should be extended to the city of Jackson.

The result of the delay has not disappointed the expectations of the directory. Some of the difficulties referred to have been entirely removed, and it is confidently believed that others will soon be, or very much lessened in magnitude, so that the work may be commenced on that part of the line at an early day, and prosecuted with as much economy as on any other portions of the road. The delay has not had a tendency to retard the progress of the work, or the ultimate completion of the entire road, nor in any manner been detrimental to your interest, but on the contrary advantageous to it.

The first consideration in determining the place of commencing the work of construction to select those points to which iron could be transported most certainly. Fortunately for the interest of the Company the divisions of the road offering the greatest facilities for the procurement of the iron rails were those places where labor could be most cheaply obtained, or where the least amount of earthwork was required for the construction of the road-bed. By prosecuting the work on these divisions the greatest amount of labor would be accomplished, or the greatest number of miles completed with the least outlay of capital.

The stockholders should not be unmindful of the fact, that the directors are restricted by public pledge, in their calls upon the subscribers to the capital stock of the Company, to one-third of the amount of their several subscriptions in any one twelve months, and should the amount of work executed or value of materials furnished, exceed their means of payment, the credit of the Company must be impaired thereby, and the completion of the road retarded if not entirely abandoned.

It is equally important that the work performed should be connected, so that as soon as completed it may be made useful to the public and profitable to the Company.

An amendment to your charter was granted by the Legislature of this State at its recent session, and it becomes necessary for you to accept its provisions before you can avail yourself of its benefits. It authorizes a connexion of your road with the

New Orleans, Jackson and Great Northern road at the city of Jackson, or at any point north of that city. It permits a consolidation of your Company with that of the Mississippi and Tennessee Central Railroad Company at any time it may be mutually agreed by both companies to do so, and thus form one continuous road under one organization, from your southern terminus northwardly through this State and Tennessee. These, with other granted privileges of perhaps minor importance are considered by the directory so advantageous to your interest; that they earnestly recommend its acceptance.

The Engineer of the Company has been directed to survey a line from a point at the present location in Yazoo county to the city of Jackson and to estimate the cost of such an extension. The citizens on the route of this new survey have been solicited to aid, by subscriptions to the capital stock of your Company, in raising the necessary funds to pay the additional cost of such extension in the event of its adoption. The estimates of the Engineer, and the amount of subscriptions thus obtained, are now in readiness to be submitted to the Board of Directors, and will enable them without further delay, to determine the point of connexion with the New Orleans, Jackson and Great Northern Railroad.

The Legislature by a recent law has authorized and required about one-third of the proceeds of the sale of the 500,000 acres of Internal Improvement Land donated by the General Government, in 1841, to this State for objects of internal improvement, to be invested in the capital stock of your Company. There is now in the State Treasury, a fund amounting to about \$360,000 derived from this source, about \$100,000 or nearly one-third of this sum is subject to the demand of the President of the Board of Directors.

Of the 500,000 acres of land, there was remaining unsold on the first of May last 347,395 acres, according to a statement of the Secretary of State. From the funds now in the State Treasury, and from future sales of land, you may reasonably anticipate that your capital stock will be increased some \$300,000 or \$350,000.

During the past fiscal year individual subscriptions to the capital stock of your Company have been largely augmented and now amount to \$1,741,250, including the amount taken by the contractors.

Since your last annual meeting, the country of Holmes in its corporate capacity has subscribed \$100,000, and hopes are entertained that the county of Carroll will follow her example.

The available means of the Company to comply with the obligations incurred by the contract with Messrs. Healy & Co., consist of individual subscriptions, as above stated... \$1,741,250

Subscription by the county of Marshall.....	\$100,000
Subscription by the county of Lafayette.....	100,000
Subscription by the county of Yalabusha.....	150,000
Subscription by the county of Holmes.....	100,000—150,000
Estimated amount to be realized from sales of Internal Improvement land, including the amount now in the State Treasury, say.....	300,000

Making a total of..... \$2,491,250

Leaving the sum of \$771,250 to be hereafter provided for by additional subscriptions or by loans.

The individual stockholders have generally paid the calls made upon their subscriptions, with great promptness, thus giving assurance that they may be relied upon for all further requisitions made upon them.

The High Court of Errors and Appeals having declared that part of your charter authorising counties to subscribe to the capital stock of your Company, a Constitutional law, the several counties that have availed themselves of that authority, during the past fiscal year collected by direct

taxation and paid to the Treasurer of your Company, nearly the amount necessary to liquidate the first annual instalment on their several subscriptions.

When it is remembered that these county subscriptions were to be paid in five or six annual instalments, by direct taxation on the taxable property of the county, and are based upon an assessed value of property in the subscribing counties, amounting to \$24,912,451 00, they may be considered of the most reliable character and their payment placed beyond contingency.

By reference to the report of the Treasurer, herewith submitted and marked "A," it will be seen there has been paid into the treasury since the organization of your Company, on account of capital stock, the sum of \$256,859 26, and there has been paid out during the same period, on account of construction, engineering, land damages, depot grounds, and other incidental expenses \$87,073 07, leaving in the hands of the Treasurer the sum of \$169,786 19, applicable to the prosecution of the work during the current year, and the liquidation of claims outstanding against the Company.

This is exclusive of the amount of the Internal Improvement Fund now in the State Treasury, subject to the demand of the Company; and you may confidently rely on the amount being considerably increased from payments that will be made from those who have heretofore neglected to pay the calls upon their subscriptions.

The Mississippi and Tennessee Central Railroad Company have concluded contracts for the construction of the road-bed from the northern boundary of this State to Jackson, Tenn., were it forms a junction with the Mobile and Ohio road, to be completed and in readiness for the iron rails by May, 1856.

That Company has abundant means at command to prosecute the work to a final completion, and from the well known character of those having the road in charge, you may confidently rely on its energetic and successful prosecution. The road here referred to, being a direct northern continuation of yours to an intersection with the Mobile and Ohio road, and possessing the privilege of extension through the State of Tennessee, its completion will materially increase the traffic and profits of the one in which you are shareholders.

From the progress making in the construction of the Mobile and Ohio road in the States of Tennessee and Kentucky, there is no reason to doubt its completion to the Ohio River at a period anterior to the anticipated completion of yours, thus opening a direct railroad communication over the Illinois Central road with the city of St. Louis and the northern lakes, on the shortest possible line that can be obtained east of the Mississippi; intersecting in its course the contemplated roads from Memphis to Louisville, and from Nashville to the Mississippi River. Near the State line of Tennessee your road intersects the Memphis and Charleston road passing eastwardly from the city of Memphis to the city of Charleston.

Seventy miles of the New Orleans, Jackson and Great Northern Railroad from the city of New Orleans north, is now in operation, and will be extended to the southern line of this State in all of next month. There is, at present, no cause to doubt its completion to the town of Canton before the expiration of the year 1856. Thus you have almost certain assurance that, by the expiration of the time when your road is to be completed, there will be a continuous line of railway of the same gauge, extending from extreme north to the city of New Orleans, traversing a country possessing the elements of almost unlimited agricultural wealth and offering facilities for the speedy interchange of the productions of 11° of latitude.

In addition to the connections with the important roads already referred to, should it be determined to extend your road to the city of Jackson, a junction will there be formed, not only with the New Orleans, Jackson and Great Northern road, but also with the southern road extending east

through Alabama; the Vicksburg and Jackson road, extending west through Louisiana over the Vicksburg and Shreveport road; and the contemplated road from Jackson to Ship Island. These are considerations worthy of serious reflection and should not be thoughtlessly rejected.

When these important railroad connections are duly considered, with the amount of freight and passenger traffic that may now flow from them; when you reflect upon the direct north and south line of your road; its remoteness from the competing influence of other railways, and of the Mississippi River; the character of the country traversed by it; the quantity and value of the productions of the district tributary to it; the population within the range of its influence; the yearly amount of travel passing from north to south; can it be doubted that this long line of railway will not almost equal in its advantages and importance the Mississippi River itself, or that the certainty and amount of the income of your road, when completed, will not equal, if it does not exceed, that of any other road now constructing, or in contemplation in any of the south-western States.

The local traffic of a railroad is of the first importance, and none should be undertaken where the local passenger and freight traffic does not promise an income equal to the expense of operating it when completed. The Central road possesses this assurance in an eminent degree.

In the district of country limited by its line of influence is contained more than one-fourth of the whole white and black population of the State, and there was grown more than one-fourth of the cotton and corn crop produced in 1849, in the whole State, according to the United States census of 1850. In addition to this, there is produced large quantities of agricultural commodities, now almost valueless to the producer, on account of expense of transportation to a market, that would become valuable articles of export upon the completion of the road. There are also extensive tracts of unimproved land, equal in quality of soil to any in the cotton growing region, that need but a cheap and certain means of transporting the productions of the country to market, to insure their cultivation and a very large addition to the quantity and value of our exports, thus securing to your road an amount of local traffic far exceeding any estimate that may have been made, based upon present population and production.

Notwithstanding the great benefits to be derived from the construction of your road, the profits that may reasonably be expected from its operation, and the means at the command of the directory for the prosecution of the work, its speedy completion must depend, in a great degree, not alone upon the directors, but upon the active and united co-operation of the stockholders of the Company. Upon them must the directory depend for the necessary means to comply with the engagements made with the contractors, and in turn the stockholders must look to the directors for an economical and judicious expenditure of the means entrusted to them. By mutual confidence and united action, all obstacles to an energetic prosecution of the whole work will be overcome, and its completion will be rendered as certain as its use will be beneficial.

Respectfully submitted by
W. GOODMAN, President.

Charleston and Savannah Railroad.

At an adjourned meeting of the subscribers to the Charleston and Savannah Railroad, held Wednesday the 12th ult., the following named gentlemen were elected President and Directors for the ensuing year:

President, Thos. F. Drayton; Directors, Hon. T. L. Hutchinson, Wm. Kirkwood, Edward Frost, Otis Mills, N. Heyward, W. F. Colecock, L. T. Potter, Daniel Hayward, W. B. Hodgson, J. Bradley, C. G. Meminger, J. B. Campbell.

Cleveland and Mahoning Railroad.

A meeting of the stockholders of this road took place in Warren, Ohio last week. The President Mr. Perkins, made a statement of the affairs of the Company, from which we glean the following. The stock account of the Company (including \$125,000 subscribed by Lawrence county, and applicable to the portion of the work in Pennsylvania) is over one million of dollars. Of this amount \$850,000 is applicable to the construction of the line from Cleveland to Youngstown, 67 miles. About \$520,000 has been expended in construction, right of way, etc., and about \$200,000 has been invested in the stock of the Ohio and Pennsylvania Canal. The amount of stock still believed to be collectable, and the real estate for sale, &c., applicable to the completion of the line from Cleveland to Youngstown, it is expected will realize \$230,000. The cash means required to complete to Youngstown exclusive of the iron, is about \$430,000, leaving still \$200,000 to be provided for. The Directors had prepared the Bonds of the Company, secured on a first mortgage, to the amount of \$850,000, but owing to the state of the money market, only \$37,500 have been sold.

After much consultation, the following resolution was passed by the stockholders:

Resolved, That to enable the Board to prosecute the work, efficient means should be taken to collect the sums due upon subscriptions of stock; and that it be recommended to the Board to issue in such sums as may be convenient, the convertible Bonds of the Company, to the amount of \$500,000, redeemable in ten years, bearing an interest of seven per cent. per annum, payable semi-annually in cash, and secured by second mortgage upon the road; and that one-half of this sum be offered for sale at not less than eighty cents on the dollar; but no Bond be issued until responsible parties shall have agreed, in such form as may be prescribed by the Board, to purchase a sufficient amount of such bonds to raise the sum of \$200,000.—Pitts. Gaz.

Resident Engineer's Headquarters.

{ STANSTEAD, SHEFFORD & CHAMBERLY R. R.
{ Granby, Canada East, Aug. 3d, 1854.

Gentlemen:—In the JOURNAL of July 29th, I notice some remarks by E. Nugent, C. E., on the equating of grades. I perceived some time since a misunderstanding among Engineers in regard to this subject, some equating for grades by adding one mile for every 20 feet of ascent, and some for every 80 feet: for comparison of different lines merely it matters little what is the number used, provided it is the same in both cases, but to find the equivalent horizontal line to any location, regard must be had to the nature of the expected traffic.

The elements of the problem are, the length and inclination of line, and the resistance of the train, which resistance depends on the weight and velocity of the load. Scott Russell's formula for the resistance to the motion of railroad trains gives the following results, the weight of the train being 50 tons.

Velocity per hour. Miles.	Resistance per ton. Pounds.
20	14.5
30	19.3
40	25.0
50	35.4
60	39.0
100	76.5

Let R = the resistance of a railroad train on a level, the resistance due gravity on an incline is expressed by $W \times \frac{1}{a}$; where W is the weight of the train in pounds, and $\frac{1}{a}$ the fractional inclina-

tion of the gradient. Now the vertical height in feet to overcome which we must expend an amount of power sufficient to move the load one mile on a level must be such that

$$W \times \frac{1}{a} = R;$$

$$\text{or } \frac{1}{a} = \frac{R}{W}.$$

To find then the number by which to equate proceed as follows. Supposing the train to weigh 50 tons or 112,000 lbs., and the velocity 20 miles per hour. The resistance from the above table is $14\frac{1}{2}$ lbs. per ton = 725 lbs. for the whole train, substituting which value in the formula $\frac{1}{a} = \frac{R}{W}$ it becomes:

$$\frac{1}{a} = \frac{725}{112,000} = \frac{1}{154} = 34 \text{ feet};$$

and the numbers for equating for the velocities in the table above are as follows:

20 miles per hour.....	34 feet.
30 " " ".....	46 "
40 " " ".....	58 "
50 " " ".....	83 "
60 " " ".....	92 "
100 " " ".....	181 "

Very respectfully

GEORGE L. VOSE.

Winchester and Alabama Railroad.

The Agent of this road, W. N. Bilbo, Esq., has at last succeeded in obtaining in Franklin county its proportion of the funds necessary for the completion of this road. Franklin county, for her population and resources, contributed more than any other county to the construction of the Nashville and Chattanooga railroad; and it has strained every nerve to raise its quota for the Winchester and Alabama railroad.

The Winchester and Alabama railroad commends its importance to our citizens from various considerations. It opens the interior of Alabama to Mobile, and by branches tapping the main trunk, the Western portions of Georgia, and the Eastern portion of Mississippi, to the stock and grain producers of our State. For its extension intersects the Memphis and Charleston railroad ten miles from Huntsville, and at Gunter's Landing meets with the Mobile, Selma, and Tennessee Railroad. It is of infinite importance to our grocery Merchants, who already partially supply this portion of the South with groceries. Nashville will soon become, as she now is in part, the exporter of the cotton of Jackson and Madison, and partially of other counties of North Alabama.—The completion of this road puts Nashville 120 miles nearer Huntsville by railroad than Memphis. Hence the great interest manifested by the citizens of Huntsville and North Alabama, for its immediate construction. They have already raised money enough to grade and timber that portion of the road to the intersection, and the entire Selma Mobile, and Tennessee Railroad is in a state of construction. Besides, all the funds necessary for the completion of the Memphis and Charleston railroad have been raised. Thus we see the importance of the immediate construction of the Winchester and Alabama railroad to the citizens of the Nashville and the farmers of Middle Tennessee. It is the most direct route to Mobile and New Orleans, and gives our farmers an advantage in market over those of East Tennessee and Kentucky, being some 150 miles nearer.

This road also commends itself to our citizens from the following facts: ninety-five miles from Nashville commence the coal fields of the Cumberland Mountains. They approach this road within from three to five miles, and extend parallel with it for a distance of twelve miles. The coal is thick and the strata are from three to five feet. Those of our knowledge belong to the Keiths, Whartons,

Stovall, Francis, and Lyles. The marble quarries are of the beautiful variegated, such as decorate our Capitol, and the black and gray. They approach within two miles of the road, near Salem—commencing at the cotton factory of Hunt & Man, and extending six miles along the road. There are forest of poplar, white oak, cedar, black walnut and cherry, indispensable to our furniture, engine, car, and steamboat manufacturers and builders. Vast deposits of iron are approached upon the lands owned by L. Mathews, within one quarter of a mile of the road, and miners have discovered in several portions of Franklin county, the outcrops or blossoms of Copper. Our informant saw several specimens tested. The most valuable are those owned and analyzed by Newman & Shook. Nashville must be the great market for the consumption and exportation of these minerals and lumber.—*Nash. Union.*

Columbia and Hamburg Railroad, Ga.

James G. Gibbs, Engineer, has completed the preliminary surveys of this road, and has submitted his report to the authorities of Columbia, by whom he was appointed.

Two routes were surveyed, the one which he designates the "low or direct line," runs within two and a half miles of Aiken, (why not unite with the Charleston Road at Aiken, and thus save fourteen miles of road?) and is 68½ miles long—an air line being 63½. The other which he designates "the upper or Ridge line," passes from Hamburg near the Cherokee Pond, Edgefield, C. H., etc., and intersects the "lower route" about eight miles from Columbia, making the distance 74½ miles.

His estimates for the cost of construction of the two lines are as follows:

Direct line—68½ miles, \$1,105,625
Ridge line—74½ miles, \$1,040,925.
Being \$16,140 50 per mile for the direct, and \$13,972 14 for the Ridge line.

Rochester Scale Works.

Among the many items we call attention to, we would remember Messrs. Duryee & Forsyth, of Rochester, N. Y., Manufacturers of scales and safes. This enterprising firm has been before the public a number of years with their wares, and have gained a world-wide reputation.

Their scales are known by their correctness and durability. Their safes are of superior finish, and contain materials proof against fire—as has been proved in all instances when subjected to the test. Recently one of their *Fire Kings* was in a large fire at Brantford, C. W., with a large sum of money, books and papers in it, and all was preserved in good order—all of which speaks well for the manufacturers. Early this spring they erected a Railway Suspension Scale at Cleveland, for Messrs. Otis, Knight & Co., for weighing wheat by the car load. This scale was constructed upon a new plan invented by the senior partner of the firm (Mr. Duryee,) and is well worthy the attention of all railroad Companies, and others wanting such scales. This scale is of great utility, and must be far preferable to the old plan of constructing them.

Messrs. Duryee & Forsyth have done much to improve and bring into use weighing machinery, and to bring the price of a good article to a fair standard, and within the reach of all wanting them. Previous to their engaging in the business, a high and exorbitant price was charged for scales, by New England Manufacturers, and when Messrs. Duryee & Forsyth entered the field, for a share of patronage, a strong hostility was kept up against them by their opponents, and persevered in with untiring zeal to crush them—but thanks to none but their own efforts for success, by their untiring perseverance and efforts they have succeeded.

Railroad companies, merchants and others are under obligations to Messrs. Duryee & Forsyth.—Had it not been for them they would have to pay exorbitant prices for their scales—and we are glad to know that they are winning golden opinions all over the land—and that their trade is very rapidly increasing. They are gentlemen of

honorable dealings and worthy of public patronage.—*Dyer's (Cin.) Bank Note Mirror.*

Congress.

The session of the present Congress closed on the 8th inst. The present session has lasted eight months and among the most important measures consummated are the following:

The regular Appropriation bill.
The Kansas and Nebraska bill.
The bill providing for six first class war steamers.
The Ten Million bill of the Gadsden treaty.
The Homestead bill for Kansas and Nebraska.
The bill extending the warehousing system.
The bill to give effect to the Canadian reciprocity treaty.
The bill repealing the Minnesota Railroad Land bill.
Amongst the treaties ratified by the Senate, the most important are:
The Gadsden treaty.
The British Colonial Reciprocity treaty.
The Commercial treaty with Japan.
The Neutrality treaty with Russia.
Sundry treaties extinguishing the Indian titles in Kansas, Nebraska and other Territories.
Among the bills which have failed are;
The various railway schemes.
The French spoliation bill of five millions.
The Pacific Railroad schemes.
The Senate bill of eight millions for the relief of Texas.
Senate amendments of several millions to the general appropriation bills, including half a million to the Washington water works.
Mr. Olds, administration bills for the increase of the rates of postage.
The bill for a line of steamers between San Francisco and China, &c. &c.
And the bill to break up Collins steamship line appropriations.
The River and Harbor bill met the Executive veto and failed to become a law.

Opening of the Chicago and Mississippi Railroad.

It will be seen by an advertisement in another column that the Chicago and Mississippi Railroad Company commence running through trains from this city to Alton and St. Louis to-day. Hitherto the railroad connection between Chicago and St. Louis has been made by three distinct lines of road. The link between Joliet and Bloomington has been completed, and now we have another great trunk line in operation to the Mississippi and the southwest. It is needless to speak of the great importance of this road to Chicago, bringing us, as it does, within twelve hours of St. Louis and the Lower Mississippi. That it will pay a large per cent. to the stockholders, and contribute largely to the business and wealth of our city, no discerning man entertains a doubt. The manner in which this road was built, speaks volumes for the energy and perseverance of the Company.—*Chicago Press.*

Chicago and Mississippi Railroad.

We understand that the resignation of Edward Keating, Esq., as Superintendent of the above road, took effect on yesterday. Mr. K., has discharged the arduous and incessant duties of his office with the most unremitting assiduity and industry; and the highly prosperous condition of the business of the road, amply testifies with what results his diligent and persevering efforts to advance the interest of the company have been rewarded. Having been in feeble health for a few weeks past, he started on last Wednesday for the East, where it is hoped his health will be entirely restored, by the change of air and scenery.—We but speak the sentiments of all connected with the road, when we say that the resignation is a source of deep regret to them, as well as to his numerous friends and public in general.

His successor, Richard P. Morgan, Jr., Esq., of Bloomington, assumes his duties of Superintendent.

to-day—a station which a long experience as construction engineer on the Joilet extension, has no doubt eminently qualified him to fill to the satisfaction of all parties.—*Alton Tel.*

Railway Traffic Returns.

Great Western of Canada 229 miles.

Earnings for week ending August 4th.

From Passengers.....	9,714
" Freight.....	2,358
" Sundries.....	1,074

\$13,148

Number of Passengers.....	5,876
Total since 1st Jan. 1854.....	\$590,976
" Passengers.....	202,565

Grand Trunk Line of Canada 292 miles.

Earnings for week ending July 22d.

From 4,579 1st class passengers.....	5,333
" 323 2d ".....	236
" 2,418 tons mdze.....	5,866
" 557 M. feet lumber.....	2,027
" 943 cords firewood.....	1,319
" Mails &c.....	779

Total.....\$15,560

Total from July 1st 1854.....\$53,315

Great Western of Canada 229 miles.

For the week ending July 28th 1854.

Received for passengers.....	9,137
" Freight.....	2,184
" Sundries.....	1,248

Total.....\$12,569

No. of passengers carried.....5,201

Do. since Jan. 1st 1854.....196,689

Total Receipt since Jan. 1st.....577,827

Grand Trunk of Canada 292 miles.

For week ending July 15, 1854.

Received for 5,261 passengers.....	\$6,094
" 3,175 tons freight.....	6,791
" 641 M. feet lumber.....	2,185
" 636 cords wood.....	932
" Mails &c.....	779

\$16,781

Total receipts since July 1st.....\$37,755

Railways in New Brunswick.

We learn from A. C. Morton, Esq., Chief Engineer of the European and North American Railway in New Brunswick, who is now in this city, that the contractors for building the E. & N. A. Railway in that Province, Messrs. Jackson, Brasse, Peto and Betts, are pushing on, with all practicable despatch, the construction of the entire line from St. John to the Gulf of St. Lawrence, and to the frontier of Nova Scotia. A large portion of the rails are already delivered, and the iron bridges are either all received, or already shipped from England. All the principal bridges are of iron, similar to those going up on the Quebec & Richmond Railway, and the road is to be of a superior character throughout.

Some difficulty exists, from the scarcity of laborers, but from the present posture of the work it is believed that during the coming year the line may be completed from St. John to the Nova Scotia line. The locating surveys are finished, and the work is sub-t to American contractors.—*State of Maine.*

Penalty for Over-issues of Stock.

The Legislature of New Hampshire has passed the following law relative to over-issues of stocks:

"Any president, cashier, treasurer or secretary, or any other officer or stockholder of any bank, railroad, manufacturing or other corporation in this State, who shall knowingly, falsely and willfully sign, issue, or cause to be issued, any shares, in the capital stock of their respective corporations, other than those authorized in their charter, or by some amendment thereto, shall be deemed and adjudged guilty of felony; and when duly convicted thereof, shall be punished by a fine not ex-

ceeding \$1,000 and imprisoned in the State prison for not less than one nor more than seven years, at the discretion of the Court."

The Committee chosen to investigate the recent over-issue of 10,321 shares in the Vermont Central Railroad by Edward Crane, the President of the Company, have made a lengthy report. They exonerate all parties from the fraud except Crane; and after alluding to his previous over-issue of 2,000 shares, the Committee say: "To inflict a second injury in a corporation already prostrated by his misconduct, renders the act the more detestable, and when it is considered that everything was done to shield him from the consequences of his first transaction on the ground that he received no private benefit from it, he has added ingratitude to crime, and stands before the public an object of scorn and contempt."

Wabash Valley Railroad Company.

The annual meeting of the Stockholders of the Wabash Valley Railroad Company, was held at York, Ills., on the 3d inst.

The following gentlemen were unanimously elected Directors:

Hon. A. T. Ellis, of Vincennes; Governor A. C. French. John Houston Esq., Dr. D. S. Meserve, Crawford county. Judge U. M. Maley, John B. Richardson, Gilead Shaw, Clark county; Jonathan Young, Hiram Sanford, S. Sutherland, Edgar county.

The Directory held a meeting the same day and unanimously elected—

Hon. A. T. Ellis, President; John B. Richardson, Secretary; Joseph G. Bowman, Treasurer; and Charles Summers, Chief Engineer.

Cincinnati, Logansport and Chicago Railroad.

The following named gentlemen now constitute the Board of Directors in this Road:

C. B. Smith, J. A. James, D. A. Powel, R. M. Corwine, J. Pullen, Cincinnati; C. K. Hamilton, New York; S. Meredith, Cambridge City; W. Butler, Dublin, M. L. Bundy, J. C. Huddleston, New Castle; W. Wright, Logansport.

On Monday last, C. B. Smith was elected President in the place of J. T. Elliott, resigned. A change in the Board of Directors and the President is in consideration of a subscription of \$800,000 to the Cincinnati, Logansport and Chicago Road, by the Cincinnati and Chicago Straight Line Company. This arrangement will, it is confidently believed, secure the completion of the road from New Castle to Logansport this fall.—*Rich. Pallad.*

To Contractors for Railroad Iron.

PROPOSALS will be received until the 20th September for nine thousand tons of railroad iron T pattern, sixty pounds to the yard. One-half to be delivered at Charleston, South Carolina, and one-half at Wilmington, North Carolina, delivery to commence in January and close in August, equal quantities to be delivered in each month at each place.

Payment will be made immediately on the delivery of each cargo, in North Carolina Funds. The contract will be given to the lowest responsible bidder provided the price be satisfactory. Bidders will endorse their bids—"Proposals for Railroad Iron"—and address them to Cyrus P. Mendenhall, Secretary, North Carolina Railroad Company, Greensboro, N. C.

WALTER GWYNN,
Chief Eng. N. C. R. R. Co.

Raleigh, August 3d, 1854.

[3t.t.d.]

Steam Engine and Blowing Cylinders for Blast Furnace for Sale.

A STEAM ENGINE, 20 inch cylinder, and five feet stroke, together with Blowing Cylinders, five feet diameter, and six feet stroke, in perfect working order, for sale. Apply to EDW. BECH & KUNHARDT, 62 Beaver St., Or, A. TOWAR, Agent Pokepsie Iron Works, 23tf
Pokepsie, N. Y.

Universal Scroll Chucks.

THOSE in want of a superior article and of various sizes will please call at or address the MERIDEN MACHINE CO. 15 Gold-st. corner of Platt, New York City. 31.2t

To Railroad and Canal Co.'s Contractors, &c.

THE undersigned would direct the attention of Chief Engineers and Contractors to the facilities they possess for supplying them with laborers, mechanics &c., of any description, and also inform them that they forward and deliver such men at whatever destination they may be required.

Companies or Contractors desirous of receiving steady and industrious men, will be promptly supplied at the shortest possible notice.

JOHN J. HELLING & CO.

No. 86 Greenwich Street, New York.

26.4t

Lawrence Scientific School, HARVARD UNIVERSITY.

THE next term of this Institution will open on the thirty-first day of August, 1854, and continue twenty weeks.

Instruction by Recitations and Practical exercises, according to the nature of the Study, will be given in:

Astronomy.....	by Messrs. Bond.
Botany.....	Prof. Gray.
Chemistry, Analytical and Practical.....	Horsford.
Comparative Anatomy and Physiology.....	Wyman.
Engineering.....	Eastis.
Mathematics.....	Pierce.
Mineralogy.....	Cooke.
Physics.....	Lovering.
Zoology and Geology.....	Agassiz.

For further information concerning the School application may be made to Prof. E. N. Horsford, Dean of the Faculty.

CAMBRIDGE, Mass., July, 1854.

[30 4t

For Sale.

BY the Baltimore and Ohio Railroad Company, 24 crate cars, adapted to Railroad purpose, which will be sold at a reasonable price. For further information, apply to:

SAMUEL J. HAYES,
M. of M., Baltimore and Ohio R. R. Co.,
Or BRIDGES & BRO.,
64 Courtland st., New York,

19 tf

Railroad Iron at Auction.

THURSDAY August 3d at twelve o'clock, at the sales room 54 William street:

1268 tons English Rails, New York and Erie pattern, about fifty six pounds linear yard, of approved quality, make and pattern.

These Rails are in the United States Bonded warehouse at Brooklyn, and, convenient for shipments. Sample Bars can be seen at Auction Room. July 29. 1t

Lowmoor Iron.

W. BAILEY LANG & CO., 54 CLIFF STREET, have in stock and offer for sale an assortment of Round, Flat and Square Bars LOWMOOR IRON, which they will sell by the ton or single bar. The attention of manufacturers, Railway Managers and Mechanics is particularly directed to the quality of this Iron, as its great strength, uniformity, and freedom from flaws, render it the best Iron in the market, where first quality is required.

W. BAILEY LANG & CO., being Sole Agents in the United States and Canadas for the LOWMOOR CO., will execute orders at manufacturer's prices. 6t.31

To Civil Engineers.

J. M—, residing at 102, Third avenue, New York city—wishes to obtain the situation of assistant in a Civil Engineer's office, or the situation of Engineer or Superintendent of works, or for any department of work, or—having surveying instruments of his own—he would undertake surveys both for railroads and other works.

He has been employed principally in Scotland surveying railways, superintending railway works, making surveys of Burghs, surveying for water works, &c.

He most respectfully solicits the attention of Civil Engineers or parties who require his services, and will attend to business faithfully and efficiently. (1t 32.1)

ZERAH COLBURN,

ENGINEER AND AGENT

FOR the Design, Construction, Valuation and Purchase of Locomotives and Railroad Machinery.

Offers his services to Railroad Companies in either of these departments, having long experience and the best facilities for all.

As CONSULTING ENGINEER he will advise as to the value or adaptation of any system of motive power, and furnish drawings, estimates and specifications for any arrangement of engine.

As ACTING ENGINEER he will superintend the construction, survey, or reconstruction of any railroad machinery, and guarantee satisfactory results.

As CONTRACTING ENGINEER, having connection with the most reliable and successful manufacturers, he will negotiate for the purchase of Locomotives of the very best construction and proportions. Also Wheels, Axes and Repair Shop Machinery.

Having much experience in Patent Business he will undertake the preparation of Drawings, Specifications, Applications for Patent or Overt and other papers necessary for inventors. He is able to give material assistance in bringing inventions and improvements in Railroad Machinery into favorable notice.

CHILLED TIRES FOR LOCOMOTIVE DRIVING WHEELS.

Zerah Colburn retains the principal agency for the sale and right of use of this valuable improvement, and will furnish the most substantial guarantees of its Safety, Durability, Adhesion and great ECONOMY.

Office, 3d floor American Railroad Journal Building,
No. 9 Spruce street,
New York.

REFERENCES.

The New Jersey Locomotive and Machine Co.
James Jackson, Pres't. Paterson, N. J.
Chas. W. Elliott, Vice Pres't. 69 Beaver str., N. Y.
Henry V. Poor, Esq., Editor Railroad Journal, New York.
Geo. D. Phelps, Pres't. Del. Lack and West Railroad.
Geo. W. Whistler, Vice Pres't New York & New Haven R.
William Raymond Lee, Esq., Boston.
Bush & Lobdell, Wilmington, Del.
Oliver M. Hyde, Esq., Mayor City of Detroit.

NUGENT'S COLLEGE

OF
ENGINEERS AND MECHANICS,
Public Square, Cleveland, Ohio.

E. NUGENT, O. E., Principal.

THE design of this Institution is to afford young men an opportunity of acquiring a knowledge of the profession of Civil Engineering, and to Mechanics and Tradesmen a sound theoretical and practical knowledge of Mathematics, Architectural and Mechanical Drafting, Plain and Ornamental Penmanship, &c.

For further particulars address the Principal.

New York and Erie R. R.

PASSENGER TRAINS
leave Pier foot of Duane street,
as follows, viz:—

BUFFALO EXPRESS, at 6 a. m. for Buffalo direct, over the N. Y. & E. R. R. and the B. & N. Y. C. R. R., without change of baggage or cars.

DUNKIRK EXPRESS, at 6 a. m. for Dunkirk.
MAIL, at 8 1/2 a. m. for Dunkirk and Buffalo, and intermediate stations. Passengers by this Train will remain over night at any Station between Binghamton and Corning, and proceed the next morning.

WAY EXPRESS, at 1 p. m. for Dunkirk.
ROCKLAND PASSENGER, at 4 p. m. (from foot of Chambers Street) via Piermont, for Suffern and intermediate stations.

WAY PASSENGER, at 4 p. m., for Otisville, and intermediate stations.

NIGHT EXPRESS, at 6 p. m. for Dunkirk and Buffalo.
EMIGRANT, at 6 p. m., for Dunkirk and Buffalo and intermediate Stations.

On Sundays only one Express Train—at 6 p. m.
These Express Trains connect at Elmira with the Elmira and Niagara Falls Railroad for Niagara Falls; at Buffalo with first-class splendid Steamers on Lake Erie for all ports on the Lake; and at Dunkirk with the Lake Shore Railroad for Cleveland, Cincinnati, Toledo, Detroit, Chicago, etc.

D. C. McCALLUM, General Sup't.

Power Planers.

THOSE in want of a small Power Planer which will plane 3 feet in length, 14 in. wide, and 12 in. deep, and made in a superior manner, will please call at the office of the MERIDEN MACHINE CO. 15 Gold-st. corner of Platt, New York City.

Any communication by mail directed to the office or Factory (West Meriden, Ct.) will meet with prompt attention.

For Sale.

A STATIONARY Engine, having cylinders 13 inches bore and 20 inches stroke complete in all respects and finished in the best manner. Has been in use about six months.

ROGERS, KETCHUM & GROSVENOR,
Paterson, New Jersey,
[Jul. 14 29 tr.] or 74 Broadway, New York.

NEW YORK STATE CANALS.—NOTICE TO CONTRACTORS. In pursuance of a resolution of the Contracting Board, notice is hereby given, that sealed proposals will be received by the undersigned for the construction and completion of the work upon the several Canals of this State, described in the following tabular statement at the times and places therein mentioned:—

ENLARGEMENT OF ERIE CANAL—WESTERN DIVISION.

Sealed proposals will be received at the Engineer's Office in the city of Buffalo, until the 1st day of September next, at 10 o'clock, A. M. for the following described work between Tonawanda and Black Rock:—

Section 360, with penalty in bond of...	\$14,000.
" 361, " " " " " "	20,000.
" 362, " " " " " "	17,200.
" 363, " " " " " "	10,000.
" 364, " " " " " "	9,800.
" 365, " " " " " "	10,600.
" 366, " " " " " "	15,800.
" 367, " " " " " "	12,000.

Guard Lock and Section at Black Rock... 14,000.
Waste Weir on Section 360..... 500.
Culvert on Section 362..... 600.

Bridge Abutments on Section 360 to Lock
Section inclusive..... 2,000.

The above work to be completed by the first of April, 1857.

Sealed proposals will be received at the Engineer's Office in the city of Rochester until the 4th day of September next, at 10 o'clock A. M., for the following described work between Rochester and Spencerport:—

Section 266, with a penalty in bond of...	\$7,500.
" 267, " " " " " "	8,500.
" 268, " " " " " "	6,700.
" 269, " " " " " "	6,100.
" 270, " " " " " "	6,500.
" 271, " " " " " "	5,200.
" 272, " " " " " "	5,600.
" 273, " " " " " "	7,200.
" 274, " " " " " "	4,200.
" 275, " " " " " "	10,200.

Culverts on Sections 266 and 275, both inclusive do. do..... 3,500.

Bridge Abutments on Sections 266 to Section 270 both inclusive..... 3,000.

Bridge Abutments on Sections 271 to Section 275 both inclusive..... 2,000.

The above work to be completed by April 1st, 1856.

MIDDLE DIVISION.

Sealed proposals will be received at the Engineer's Office in the city of Syracuse until the 7th day of September next at 10 o'clock in the forenoon for the following described work:—

Section 135, with penalty in bond of....	\$5,400.
" 136, " " " " " "	6,200.
" 137, " " " " " "	5,100.
" 138, " " " " " "	4,100.
" 139, " " " " " "	4,700.
" 140, " " " " " "	4,000.
" 141, " " " " " "	5,200.
" 142, " " " " " "	6,700.
" 143, " " " " " "	6,100.
" 144, " " " " " "	4,800.
" 145, " " " " " "	4,700.
" 198, " " " " " "	3,200.
" 199, " " " " " "	4,000.

Culverts on Sections 135, 136, 137, 138 and 139..... 4,600.

Culverts on Sections 141, 144, 145, 146, 147, 148, 149..... 4,600.

Bridge Abutments on Sections 135, 136, 137, 140, 143 and 145..... 3,600.

Waste Weir at Cowassalon Creek..... 800.

Dam and Guard Gate do. do..... 600.

The above work to be completed April 1st, 1856.

All propositions must be for a sum certain, as to the price to be paid or received, for each and every kind of work; and no proposition not thus

defined will be received or acted upon; and no proposition will be considered complete unless a price for every kind of work included in such proposition is distinctly and plainly inserted.

Every proposal shall be accompanied by an affidavit, endorsed thereon, of each person uniting in such proposal, that he is not directly or indirectly interested in any other proposal for the same work or materials, or any part of the same; that he has no agreement or understanding with any other person to become interested in any other proposal or contract for the same work or materials, or any part thereof; and that no other person than such as shall be named in the proposal is interested in the same, or has any agreement or understanding to become interested in any contract that may be made in pursuance of such proposal.

Every proposal for work or materials embraced in the above statements shall be accompanied with a bond to the people of this State, in the penalty specified opposite each kind of work in said statement, and which bond shall be signed by the party making such proposal and two or more responsible sureties, with such evidence of their responsibility as the contracting board shall require, and which sureties shall justify in sums equal in the aggregate to twice the amount of such penalty.

Each proposal must be accompanied by the certificate of the Supervisor of the town, and the County Clerk, or the County Judge of the county in which said surety shall reside, or any two of them, as to the responsibility of said sureties.

The persons to whom the work may be awarded will be required by the contracting board to give the bond for the payment of laborer's wages, as required by chapter 278, of the laws of 1850.

No acceptance of a proposal or award of a contract by the contracting board, and no contract made by the said board, or any interest in the same, shall be assignable to any person or persons, without the written consent of the Canal Commissioners.

Fifteen per cent of the amount of any work done or materials furnished, at the contract price thereof, shall be reserved by the canal commissioner until the whole work, which is the subject of the contract, shall be fully and entirely completed.

In case the contracting board shall be of opinion that the proposals made at any meeting thereof, pursuant to any advertisement, are, in consequence of any combination or otherwise, excessive and disadvantageous to the State, they may decline all the said proposals, and advertise anew for the work and materials embraced therein.

Contractors will be required to receive and use in the work all such materials as have been previously procured and delivered for any of the above work, and allow such prices therefor as may be exhibited at the several offices prior to the letting.

The prices in the contract will be considered as including the expense of furnishing all the materials, and performing all the work, according to the plans, specifications and notices exhibited at the letting.

The persons to whom the work may be awarded, will be required to enter into contract for the performance of the work within ten days after the same shall have been awarded to him, upon the terms prescribed by the contracting board.

The name or names of the persons proposing, must be written out in full, with their places of residence.

The maps, plans, specifications, quantities of materials, propositions, blank contracts and bonds will be ready for examination at the several places specified in this notice, ten days previous to the times specified for the several lettings.

Dated at ALBANY, August 1st, 1854.

HENRY FITZHUGH,
FREDERICK FOLLETT,
CORNELIUS GARDINER, } Canal Comm'rs.
JAMES M. COOK, Comptroller.
JOHN T. CLARK, State Eng. and Surveyor.